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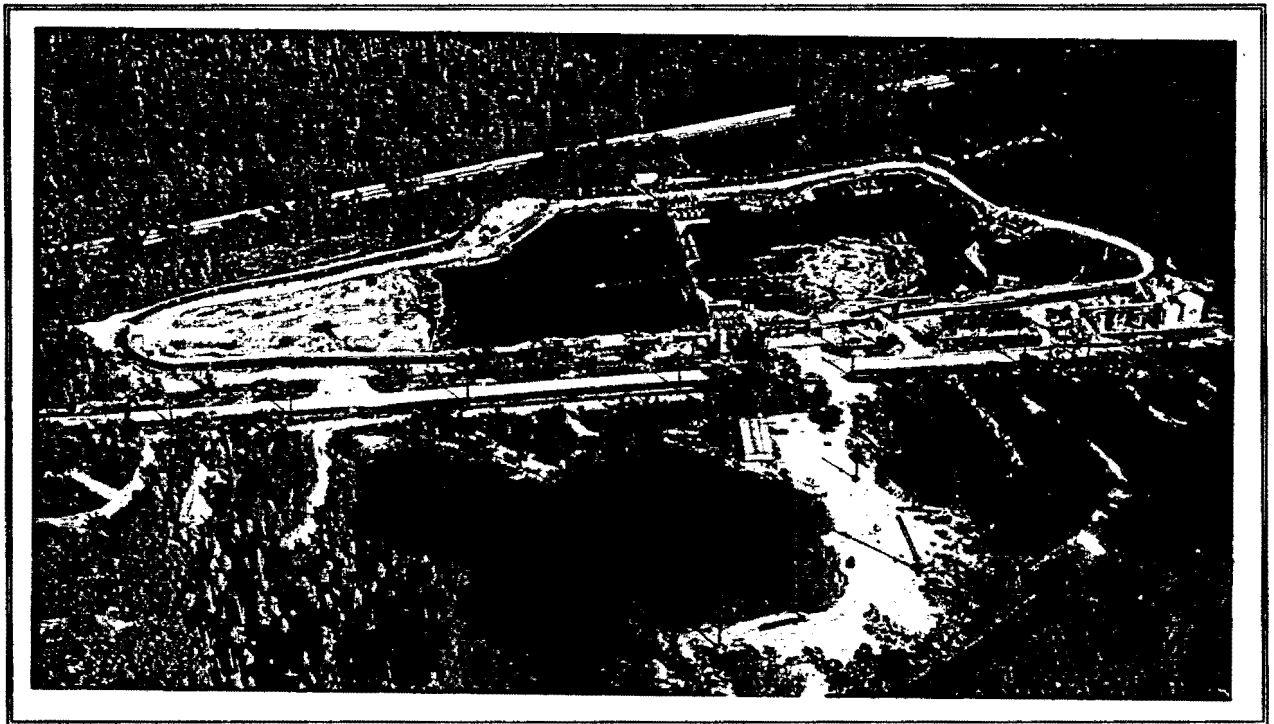


French Ltd. Project

FLTG, Inc.

Crosby, Texas

MONTHLY PROGRESS REPORT



Submitted to:

U.S. Environmental Protection Agency - Region 6
and
Texas Natural Resource Conservation Commission

December, 1994

01502346

060262



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Crosby, Texas

MONTHLY PROGRESS REPORT

Submitted to:

**U.S. Environmental Protection Agency - Region 6
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Texas Natural Resource Conservation Commission**

December, 1994

MONTHLY PROGRESS REPORT
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8A	Repository Status Report: December, 1994

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Appendix A - None

Appendix B - None

Appendix C - Analytical Results -

Samples Dated December, 1994

<u>Project I.D.</u>	<u>Date Received</u>	<u>Project I.D.</u>	<u>Date Received</u>
S1B0010	12/22/94	M06C0021	12/30/94
M03A0287	12/22/94	M04F0009	12/30/94
M03A0289	12/27/94	M04C0015	12/30/94
M03A0288	12/27/94	M04B0015	12/30/94
M08B0007	12/29/94	M04A0020	12/30/94
S04A0014	12/30/94	M03A0290	12/30/94
S04A0013	12/30/94	M01D0049	12/30/94

MONTHLY PROGRESS REPORT
Introduction

French Ltd. Project
FLTG, Incorporated

1.0 INTRODUCTION

This report covers the activities of FLTG, Inc. and the French Limited Project for December, 1994. FLTG, Inc. manages the project for the French Limited Task Group of Potentially Responsible Parties.

During December, 1994, the project team focused on the following activities and issues:

- Health, Safety, and Quality.
- Safety awareness.
- Contractor safety.
- HAZOP of daily work assignments.
- Detecting and correcting work place hazards.
- Response to changing site conditions.
- Slipping, tripping, and falling hazards.
- Safe work practices in congested conditions.
- Working around moving equipment.
- Treatment options for Cell D water.
- Re-vegetate Cell F.
- Maintain DO, OUR, HMB, and plate count in Cell D.
- Lagoon remediation completion report.
- Vegetation evaluation in Cell E.

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- Operation and maintenance of the aquifer remediation system.
- In-situ aquifer bioremediation.
- Riverdale property acquisition.
- Water treatment plant operation and maintenance.
- Management of carbon blending system to maintain effluent quality.
- Operation of the data base management system.
- Wetlands project construction.
- This report includes:
 - A summary of December activities, issues, and progress.
 - Lagoon activities and issues.
 - Groundwater and Subsoil Remediation activities, issues, and progress.
 - Groundwater Treatment Plant activities and issues.
 - Ambient Air Management status.
 - QA/QC status and data.
 - Site management activities and issues.
 - Wetlands restoration activities, issues, and progress.



MONTHLY PROGRESS REPORT
Summary

French Ltd. Project
FLTG, Incorporated

2.0 SUMMARY

2.1 Summary of Activities and Progress

2.1.1 Health and Safety

There were no personal injury incidents.

There were no equipment damage incidents.

All site workers earned the December safety bonus.

Conducted safety meetings and job inspections at the start of each shift; reviewed safety issues before starting all jobs.

All employees and contractors attended daily safety meetings.

Conducted daily mini-HAZOP of all specific jobs.

Supervision made 156 specific on-the-job safety contacts.

Emphasized slips, trips, and falls in all work areas.

Inspected and certified all fire extinguishers.

Inspected all contractor equipment before on-site use.

Inspected all vendor delivery trucks before site entry.

Emphasized the hazards and precautions associated with working around moving equipment.

Conducted 25 specific health and safety inspections.

Logged all safety issues each shift; less than 24-hour response to all safety issues.

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Continued lottery ticket daily safety awareness incentive program; all regular site employees and regular contractors receive a Texas lottery ticket each day; tickets can be "lost" due to safety violations; employee response continues to be excellent. Program modifications are being evaluated to increase the monetary awards to the employee.

Conducted personnel exposure monitoring, and all results were within acceptable levels. The most recent results are in Table 2-1.

2.1.2 Quality/QAQC/Data Base Management

The total quality process was used. The status of the goals is shown on Table 2-2; exceeded the maintenance MH goal due to electrical work.

Raw data is being validated as per the plan.

The data base management system operated with no problems or delays.

There were no data or reports rejected due to errors.

Developed response action plan for EPA audit of AATS, and implemented the specific response actions.

American Analytical continued to provide data on time.

Normal site operations and control were resumed.

The treated water exceeded the total chlorinated hydrocarbon limit on December 1, 1994, due to a surge of high chlorinated volatiles to the bioreactors; well production rates have been balanced to eliminate any chlorinated surges.

2.1.3 Lagoon

Maintained a high level of biological activity in Cell D; OUR, HMB, and plate counts were high. Added O₂ to Cell D using a downdraft aerator. Bottom profiles indicate low levels of soft biomass in Cell D.

Vegetated Cell F twice with Rye grass; vegetated Cell E once with Rye grass.

MONTHLY PROGRESS REPORT
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Evaluated options for handling/treating Cell D water; subsurface injection in Cell E and F has potential.

Continued evaluation of various tree and bush species for passive dewatering of the subsurface inside the floodwall.

Tested floodwall gate closure.

2.1.4 Ambient Air Management

Ambient air quality was manually checked daily with portable analyzers, and no response action was required.

Air quality was continuously monitored in all potential exposure areas and on all special jobs.

Time-integrated samples were collected in three work areas, and the results indicated no exposure; the data is shown in Table 2-1.

An ambient air monitoring and response plan was developed for the INT fracturing program.

2.1.5 Aquifer Remediation

Monitored status of DNAPL plumes.

DNAPL flow to S1-12, S1-13 and S1-16 continues to be erratic.

DNAPL flow in S1-16 has remained low.

Submitted responses to EPA comments on the DNAPL FS report.

Developed final report on the INT-11 area containment wall permeability testing; the wall is providing an effective barrier to migration.

Continued routine S1 and INT oxygen and nutrient injection.

Continued to evaluate ways to increase INT production rates.

MONTHLY PROGRESS REPORT
Summary

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Completed site preparation to pressure fracture the INT zone near low producing INT wells; sand, nutrients, and an oxygen source will be injected into the fractures.

Operated vacuum-enhanced pumping systems for INT wells.

Completed annual S1 and INT zone progress sampling.

Issued weekly well status and performance reports.

Inspected and adjusted all wells each day.

Continued daily maintenance of recovery and injection wells.

Completed monthly well measurements and sampling; TOC levels are still low.

Maintained O₂ content of injection water at about 40-45 ppm.

Evaluated phreatofilic Plants in Cell E area for passive gradient control.

Continue pulse pumping in sections of the S1 zone South of Gulf Pump Road; the results continue to look positive.

Developing an aquifer remediation confirmation procedure.

Started to develop active remediation shut-off criteria. Evaluating various modeling approaches to develop specific compliance concentration levels at the compliance point.

2.1.6 Groundwater Treatment

The carbon blending system operated with no problems; the amount of effluent water requiring carbon treatment continued to decrease as the treatment plant influent water TOC decreased and as the biomass activity stabilized.

The water treatment plant operated 100% of the time.

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The water treatment plant effluent data is shown in Table 2-3. The high total chlorinated hydrocarbons level on December 1, 1994, was due to surges in chlorinated hydrocarbons from the production wells.

TOC input to T-101 continued to decrease.

Changed the carbon on one occasion; loaded the carbon with dissolved solids from Cell D before change-out.

The process operators collected all the process water and ground water samples.

2.1.7 Wetlands Restoration

Continued plant species sourcing.

Completed site demolition.

Continued site dewatering; it appears that some dewatering will be required after every significant rainfall.

Started topsoil removal.

Started excavation of flow channels.

Salvaged specific vegetation and topsoil.

Designed bridge openings and developed specifications for lump sum bids for three bridges.

Reviewed status, progress, and issues with the agency review committee.

2.1.8 Site Management and Issues

Used the on-site laboratory to process all the operational control samples.

Reviewed site progress and issues in detail with EPA and TNRCC on a regular basis.

Validated all analytical data as per the QAQC plan.

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Reviewed project status and issues each day to ensure focus on critical issues - safety, quality and cost.

Issued weekly cost, schedule, and maintenance reports.

Reviewed progress on issues and action plans each week.

Reduced technical support MH's.

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TABLE 2-1

Ambient Air Management
Time Integrated Exposure Data

Compound	PEL 8 hour PPM	M01D004901 12-Dec-94 Well Sampler		M01D004902 12-Dec-94 GWT Operator		M01D004903 12-Dec-94 Well Maint.	
		% of PEL	PPM	% of PEL	PPM	% of PEL	PPM
Chloromethane	50	0.000	0.000	0.000	0.000	0.005	0.003
Bromomethane	5	0.000	0.000	0.000	0.000	0.000	0.000
Vinyl chloride	1	0.000	0.000	0.000	0.000	0.000	0.000
Chloroethane	1000	0.000	0.000	0.000	0.000	0.000	0.000
Dichloromethane	50	0.011	0.005	0.017	0.009	0.007	0.003
Acetone	750	0.002	0.012	0.002	0.012	0.001	0.009
Carbon disulfide	10	0.012	0.001	0.027	0.003	0.007	0.001
1,1-Dichloroethene	5	0.000	0.000	0.000	0.000	0.024	0.001
1,1-Dichloroethane	100	0.000	0.000	0.000	0.000	0.000	0.000
trans-1,2-Dichloroethane	200	0.004	0.008	0.007	0.015	0.003	0.006
Chloroform	10	0.007	0.001	0.018	0.002	0.005	0.000
1,2-Dichloroethane	10	0.000	0.000	0.004	0.000	0.000	0.000
2-Butanone	200	0.002	0.004	0.001	0.002	0.001	0.001
1,1,1-Trichloroethane	350	0.000	0.000	0.000	0.000	0.000	0.000
Carbon Tetrachloride	5	0.004	0.000	0.013	0.001	0.000	0.000
Vinyl acetate	10	0.000	0.000	0.000	0.000	0.000	0.000
Bromodichloromethane			0.000		0.000		0.000
1,2-Dichloropropane	75	0.000	0.000	0.000	0.000	0.000	0.000
cis-1,3-Dichloropropene	1	0.000	0.000	0.000	0.000	0.000	0.000
Trichloroethene	50	0.000	0.000	0.001	0.000	0.000	0.000
Dibromochloromethane			0.000		0.000		0.000
1,1,2-Trichloroethane	10	0.000	0.000	0.000	0.000	0.000	0.000
Benzene	1	0.122	0.001	0.123	0.001	0.081	0.001
trans-1,3-Dichloropropene	1	0.000	0.000	0.000	0.000	0.000	0.000
2-Chloroethylvinyl ether			0.000		0.000		0.000
Bromoform	0.5	0.000	0.000	0.000	0.000	0.000	0.000
4-Methyl-2-pentanone	50	0.003	0.001	0.001	0.000	0.000	0.000
2-Hexanone	5	0.000	0.000	0.000	0.000	0.000	0.000
Tetrachloroethene	50	0.000	0.000	0.004	0.002	0.000	0.000
1,1,2,2-Tetrachloroethane	1	0.000	0.000	0.000	0.000	0.000	0.000
Toluene	100	0.004	0.004	0.005	0.005	0.003	0.003
Chlorobenzene	10	0.000	0.000	0.002	0.000	0.000	0.000
Ethylbenzene	100	0.000	0.000	0.001	0.001	0.000	0.000
Styrene	50	0.000	0.000	0.000	0.000	0.000	0.000
Xylene (total)	100	0.000	0.000	0.000	0.000	0.000	0.000
Hexane			0.003		0.003		0.002

MONTHLY PROGRESS REPORT
Summary

French Ltd. Project
FLTG, Incorporated

TABLE 2-2

Project Quality

Status as of
12/31/94

Goals

- | | | |
|-----------|----|--|
| Yes | 1) | No OSHA recordable injuries. |
| Attention | 2) | 100% compliance with all safety rules and procedures. |
| Yes | 3) | No citations for violations of applicable, relevant and appropriate regulations. |
| Yes | 4) | 100% attendance (including subcontractors) at daily safety meetings. |
| Attention | 5) | Less than 24-hour response time on health and safety issues. |
| Yes | 6) | 100% sign-in and security clearance. |
| Yes | 7) | No invalidation of reported data due to QA/QC issues. |

- 8) Spend less than:

MH/Month

- | | | |
|---------------|--------------------------------|-------|
| Yes | • Direct hire | 3,000 |
| Yes | • FLTG management (5 people) | 700 |
| Yes/Attention | • Technical support (3 people) | 600 |
| Action | • Maintenance support | 120 |

- | | | |
|-----|-----|---|
| Yes | 9) | Pump at least 140 gpm; inject at least 100 gpm. |
| Yes | 10) | Remediate shallow alluvial zone aquifer in 60 months. |
| Yes | 11) | Hold analytical cost to less than \$20,000 per month (1994 only). |
| Yes | 12) | No unscheduled overtime (per day or per week). |
| Yes | 13) | No agency contacts which require 3rd party resolution. |
| Yes | 14) | Documented training of site personnel for all work assignments. |
| Yes | 15) | Weekly audit of actual performance versus goals. |

MONTHLY PROGRESS REPORT
Summary

French Ltd. Project
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TABLE 2-3
Treated Water Results Summary

Collected	Set No.	pH		TSS		TOC		D&G		Benzene		Chlor HC's		Total PCBs		Naphthalene	
		(6-9)		5 PPM		55 PPM		15 PPM		150 PPB		500 PPB		0.65 PPB		300 PPB	
		Daily	R-Avg	Daily	R-Avg	Daily	R-Avg	Daily	R-Avg	Daily	R-Avg	Daily	R-Avg	Daily	R-Avg	Daily	R-Avg
1 Aug 94	M03A0258	7.36		8.		33.9		2.5		6.		313.		.16		5.	
4 Aug 94	M03A0259	7.3		2.		33.6		2.5		2.5		203.		.16		5.	
8 Aug 94	M03A0260	7.25		3.		65.6		2.5		2.5		145.		.16		5.	
11 Aug 94	M03A0261	7.16		2.		81.		2.6		2.5		292.		.16		5.	
15 Aug 94	M03A0262	7.13		1.		76.3		2.5		6.		342.		.16		5.	
18 Aug 94	M03A0263	7.25		1.		26.1		2.5		2.5		104.		.16		5.	
22 Aug 94	M03A0264	7.33		1.		15.		2.6		2.5		242.		.16		5.	
25 Aug 94	M03A0265	7.46		2.		34.7		2.5		2.5		102.		.16		5.	
29 Aug 94	M03A0266	7.37	7.29	10.	3.33	23.5	43.3	2.5	2.5	2.5	3.28	56.	200	.16	.16	5.	5.
1 Sep 94	M03A0267	7.54	7.31	1.	2.56	23.7	42.17	2.5	2.5	2.5	2.89	44.	170	.16	.16	5.	5.
5 Sep 94	M03A0268	7.69	7.35	3.	2.67	37.2	42.57	2.5	2.5	2.5	2.89	152.	164	.16	.16	5.	5.
8 Sep 94	M03A0269	7.58	7.39	2.	2.56	37.8	39.48	2.5	2.5	2.5	2.89	52.	154	.16	.16	5.	5.
12 Sep 94	M03A0270	7.14	7.39	3.	2.67	38.7	34.78	2.5	2.5	2.5	2.89	152.	138	.16	.16	5.	5.
15 Sep 94	M03A0271	7.25	7.4	2.	2.78	38.3	30.58	2.5	2.5	2.5	2.5	680.	176	.16	.16	5.	5.
19 Sep 94	M03A0272	7.59	7.44	48.	7.78	36.2	31.68	2.5	2.5	6.	2.89	521.	222	.16	.16	5.	5.
22 Sep 94	M03A0273	7.55	7.46	5.	8.22	38.2	34.26	2.5	2.5	6.	3.28	524.	254	.16	.16	5.	5.
26 Sep 94	M03A0274	7.19	7.43	4.	8.44	37.3	34.54	2.5	2.5	2.5	3.28	523.	300	.16	.16	5.	5.
29 Sep 94	M03A0275	7.31	7.43	6.	8.	47.8	37.24	2.5	2.5	2.5	3.28	937.	398	.16	.16	5.	5.
3 Oct 94	M03A0276	7.36	7.41	1.	8.	43.	39.39	2.5	2.5	2.5	3.28	593.	459.	.16	.16	5.	5.
6 Oct 94	M03A0277	7.44	7.38	1.	7.78	43.1	40.04	2.5	2.5	6.	3.67	230.	468.	.16	.16	5.	5.
10 Oct 94	M03A0278	7.61	7.38	1.	7.67	18.7	37.92	2.5	2.5	6.	4.06	310.	497	.16	.16	5.	5.
13 Oct 94	M03A0279	7.28	7.4	1.	7.44	20.7	35.92	2.5	2.5	6.	4.44	380.	522	.16	.16	5.	5.
3 Nov 94	CF-Out 1103	7.39	7.41	6.	7.89	23.1	34.23	2.5	2.5	2.5	4.44	14.	448	.16	.16	5.	5.
14 Nov 94	M03A0282	7.4	7.39	9.	3.78	23.4	32.81	2.5	2.5	2.5	4.06	145.	406	.16	.16	5.	5.
17 Nov 94	M03A0283	7.38	7.37	2.	3.44	37.3	32.71	2.5	2.5	2.5	3.67	611.	416	.16	.16	5.	5.
21 Nov 94	M03A0284	7.27	7.38	4.	3.44	5.5	29.18	2.5	2.5	6.	4.06	423.	405	.16	.16	5.	5.
24 Nov 94	M03A0285	7.26	7.36	4.	3.22	38.8	28.18	2.5	2.5	25.	6.56	1647.	484	.16	.16	5.	5.
28 Nov 94	M03A0286	7.24	7.36	.5	3.17	44.7	28.37	2.5	2.5	12.5	7.67	668.	492	.16	.16	5.	5.
1 Dec 94	M03A0287	7.4	7.36	1.	3.17	34.8	27.44	2.5	2.5	6.	7.67	526.	525	.16	.16	5.	5.
5 Dec 94	M03A0288	7.57	7.35	1.	3.17	28.5	28.53	2.5	2.5	6.	7.67	305.	524	.16	.16	5.	5.
8 Dec 94	M03A0289	7.52	7.38	1.	3.17	40.6	30.74	2.5	2.5	6.	7.67	480.	535	.16	.16	5.	5.
12 Dec 94	M03A0290	7.43	7.39	4.	2.94	33.	31.84	2.5	2.5	6.	8.06	342.	572	.16	.16	5.	5.
15 Dec 94	M03A0291	8.13	7.47	.5	2.	23.	31.8	2.5	2.5	6.	8.44	145.	572	.16	.16	5.	5.
19 Dec 94	M03A0292	7.96	7.53	1.	1.89	29.3	30.91	2.5	2.5	2.5	8.44	75.	512	.16	.16	5.	5.
22 Dec 94	M03A0293	7.91	7.6	4.	1.89	17.8	32.28	2.5	2.5	2.5	8.06	170.	484	.16	.16	5.	5.
26 Dec 94	M03A0294	7.68	7.65	10.	2.56	41.8	32.61	2.5	2.5	6.	5.94	353.	340	.16	.16	5.	5.
29 Dec 94	M03A0295	7.79	7.71	1.	2.61	15.4	29.36	2.5	2.5	2.5	4.83	205.	289.	.16	.16	5.	5.

Discharge sample of 17-Oct destroyed in flood.

Chlorinated hydrocarbons value is sum of detected concentrations of 21 volatile chlorinated hydrocarbons on target compound list.

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TABLE 2-3 (Continued)
Treated Water Results Summary

Collected	Set No.	As		Ba		Cd		Cr		Cu		Pb		Mn		Hg		Ni		Se		Ag		Zn	
		150 PPB		200 PPB		50 PPB		500 PPB		15 PPB		66 PPB		300 PPB		1 PPB		148 PPB		20 PPB		5 PPB		162 PPB	
		Daily	R-Avg	Daily	R-Avg	Daily	R-Avg	Daily	R-Avg	Daily	R-Avg	Daily	R-Avg	Daily	R-Avg	Daily	R-Avg	Daily	R-Avg	Daily	R-Avg	Daily	R-Avg	Daily	R-Avg
1-Aug-94	M03A0258	8.		100.		.3		3.		141.		4.		15.		.1		5.		.8		.5		106.	
4-Aug-94	M03A0259	14.		104.		.3		.3		5.		.8		7.		.1		11.		.8		.5		10.	
8-Aug-94	M03A0260	11.		110.		.3		1.5		6.		.8		7.		.1		15.		2.		.5		14.	
11-Aug-94	M03A0261	14.		105.		.3		1.		3.		.8		5.		.1		10.		5.		.5		12.	
15-Aug-94	M03A0262	14.		94.		.3		.3		2.		.8		4.		.1		7.		.8		.5		9.	
18-Aug-94	M03A0263	14.		89.		.3		1.		5.		.8		3.		.1		14.		.8		.5		12.	
22-Aug-94	M03A0264	9.		70.		.3		.3		10.5		.8		3.		.1		2.		.8		.5		5.	
25-Aug-94	M03A0265	10.		88.		.3		.3		1.		.8		2.		.1		3.		.8		.5		3.	
29-Aug-94	M03A0266	20.	12.7	80.	93.3	.3	.3	3.	1.2	5.	19.8	.8	1.1	5.	5.2	.1	.1	10.	8.6	1.5	1.4	.5	.5	12.	20.3
1-Sep-94	M03A0267	14.	13.3	70.	90.	.3	.3	1.	.9	2.	4.4	.8	.8	3.	3.8	.1	.1	7.	8.8	.8	1.4	.5	.5	5.	9.1
5-Sep-94	M03A0268	17.	13.7	62.	85.3	1.3	.4	2.5	1.2	1.3	4.	1.3	.8	5.	3.6	.1	.1	10.	8.7	1.3	1.5	2.5	.7	8.	8.9
8-Sep-94	M03A0269	10.	13.6	50.	78.7	1.3	.5	2.5	1.3	1.3	3.4	1.3	.9	4.	3.3	.1	.1	5.	7.6	1.3	1.4	2.5	.9	3.8	7.8
12-Sep-94	M03A0270	12.	13.3	45.	72.	1.3	.6	2.5	1.5	4.	3.6	1.3	.9	3.	3.1	.1	.1	2.5	6.7	1.3	1.	2.5	1.2	10.	7.5
15-Sep-94	M03A0271	13.	13.2	50.	67.1	1.3	.7	2.5	1.7	3.	3.7	1.3	1.	1.3	2.8	.1	.1	7.	6.7	1.3	1.1	2.5	1.4	24.	9.2
19-Sep-94	M03A0272	10.	12.8	54.	63.2	1.3	.8	2.5	1.9	4.	3.6	1.3	1.	11.	3.6	.1	.1	5.	5.7	1.3	1.1	2.5	1.6	10.	9.
22-Sep-94	M03A0273	12.	13.1	64.	62.6	1.3	.9	2.5	2.1	4.	2.8	1.3	1.1	22.	5.8	.1	.1	5.	6.1	1.3	1.2	2.5	1.8	11.	9.6
26-Sep-94	M03A0274	14.	13.6	61.	59.6	1.3	1.	2.5	2.4	1.3	2.9	1.3	1.1	4.	6.	.1	.1	5.	6.3	1.3	1.2	1.3	1.9	3.8	9.7
29-Sep-94	M03A0275	15.	13.	78.	59.3	1.3	1.1	2.5	2.3	1.3	2.5	1.3	1.2	5.	6.5	.1	.1	5.	5.7	1.3	1.2	2.5	2.1	10.	9.5
3-Oct-94	M03A0276	13.	12.9	60.	58.2	1.3	1.3	2.5	2.5	3.	2.6	1.3	1.3	11.	7.4	.1	.1	20.	7.2	1.3	1.3	2.5	2.4	9.	9.9
6-Oct-94	M03A0277	14.	12.6	73.	59.4	1.3	1.3	2.5	2.5	3.	2.8	1.3	1.3	9.	7.8	.1	.1	2.5	6.3	1.3	1.3	2.5	2.4	3.8	9.5
10-Oct-94	M03A0278	11.	12.7	58.	60.3	1.3	1.3	2.5	2.5	3.	3.	1.3	1.3	1.3	7.5	.1	.1	1.3	5.9	1.3	1.3	2.5	2.4	10.	10.2
13-Oct-94	M03A0279	10.	12.4	70.	63.1	1.3	1.3	2.5	2.5	2.5	2.8	1.3	1.3	3.	7.5	.1	.1	2.5	5.9	1.3	1.3	2.5	2.4	3.8	9.5
3-Nov-94	CF-Out 1103	46	16.1	32.	61.1	.1	1.1	5.	2.8	5.	3.	.5	1.2	21.	9.7	.1	.1	7.	5.9	1.3	1.3	.2	2.1	50.	12.4
14-Nov-94	M03A0282	30.	18.3	12.	56.4	.1	1.	.2	2.6	3.	2.9	.5	1.1	.1	8.5	.1	.1	.1	5.4	1.2	1.2	.2	1.8	3.	11.6
17-Nov-94	M03A0283	15.	18.7	51.	55.	.1	.9	2.	2.5	2.	2.7	.5	1.	14.	7.6	.1	.1	8.	5.7	1.2	1.2	.2	1.6	6.	11.
21-Nov-94	M03A0284	10.	18.2	50.	53.8	.1	.7	.2	2.2	2.	2.8	.5	.9	6.	7.8	.1	.1	4.	5.6	1.2	1.2	.2	1.5	4.	11.1
24-Nov-94	M03A0285	16.	18.3	79.	53.9	.1	.6	1.	2.	2.	2.8	.5	.8	27.	10.3	.1	.1	7.	5.8	1.3	1.2	.2	1.2	1.5	10.1
28-Nov-94	M03A0286	6.	17.6	115.	60.	.1	.5	.2	1.8	2.	2.7	.5	.8	18.	11.	.1	.1	7.	4.4	1.3	1.2	.2	.9	6.	9.8
1-Dec-94	M03A0287	11.	17.2	109.	64.	.1	.4	.5	1.6	1.	2.5	.5	.7	7.	10.8	.1	.1	10.	6.2	1.3	1.2	.5	.7	4.	9.8
5-Dec-94	M03A0288	12.	17.3	121.	71.	.1	.2	1.	1.4	3.	2.5	1.	.6	19.	12.8	.1	.1	.9	5.2	1.3	1.2	.5	.5	9.	9.7
8-Dec-94	M03A0289	14.	17.8	128.	77.4	.1	.1	1.	1.2	.3	2.3	.5	.6	3.	12.8	.1	.1	10.	6.	1.3	1.2	.2	.2	3.8	9.7
12-Dec-94	M03A0290	7.	13.4	154.	91.	.1	.1	7.	1.4	4.	2.1	.5	.8	9.	11.5	.1	.1	13.	6.7	1.3	1.2	.2	.2	5.	4.7
15-Dec-94	M03A0291	49.	15.6	92.	99.9	.1	.1	2.	1.6	.7	1.9	.5	.6	3.	11.8	.1	.1	1.	6.8	5.	1.7	.2	.2	5.	4.9
19-Dec-94	M03A0292	16.	15.7	93.	104.6	.1	.1	1.	1.5	1.	1.8	.5	.6	3.	10.6	.1	.1	2.	6.1	1.	1.6	.2	.2	4.	4.7
22-Dec-94	M03A0293	17.	16.4	130.	113.4	.1	.1	.2	1.5	1.4	1.7	.5	.6	2.	10.1	.1	.1	2.	5.9	1.3	1.6	.2	.2	1.5	4.4
26-Dec-94	M03A0294	11.	15.9	151.	121.4	.1	.1	.2	1.4	1.8	1.7	.5	.6	9.	8.1	.1	.1	4.	5.5	1.3	1.6	.2	.2	6.	4.9
29-Dec-94	M03A0295	18.	17.2	114.	121.3	.2	.1	1.	1.5	1.	1.6	.5	.6	4.	6.6	.1	.1	3.	5.1	5.	2.1	.2	.2	4.	4.7

of 17-Oct destroyed in flood.
is values in PPB.

MONTHLY PROGRESS REPORT
Summary

French Ltd. Project
FLTG, Incorporated

2.2 Problem Areas and Recommended Solutions

<u>Problem</u>	<u>Solution</u>
Maintain high level of safety awareness.	Continue daily lottery ticket program. Daily safety meetings. Supervisory safety contacts. Review daily incentive options.
On-the-Job safety attention.	Contact all employees at least twice per day on safety issues. Review job details as work proceeds. Stop and challenge approach.
Hazard detection and response.	Safety inspections. HAZOP's on all jobs.
Lagoon remediation confirmation.	Submit combined Cell E/Cell D/F bottom sampling data report.
Low flow in some INT pumping and injection wells.	Vacuum enhanced pumping. Increase injection pressure in some areas. Pressure fracture INT zone in selected areas.
Chlorinated hydrocarbons in treated water.	Adjust and balance flows from selected wells.
Increase INT zone remediation rate.	Increase pumping and injection rates.
Cell D water handling.	Land apply in Cell E. Evaluate other options.

2.3 Problems Resolved

None.

2.4 Deliverables Submitted

MONTHLY PROGRESS REPORT
Summary

French Ltd. Project
FLTG, Incorporated

November, 1994 monthly report.
Final DNAPL FS report.
Cell E/Cell D/F bottom soil data report.

2.5 Upcoming/Ongoing Events and Activities

Daily safety meetings and inspections.

Lottery ticket safety awareness program.

Emphasis on multiple work assignments.

Emphasis on muscle strains and proper lifting/handling.

Emphasis on slips, trips, and falls.

Respond to HAZOP audits.

Increase INT zone flushing.

Daily well pump checks and maintenance.

Aquifer compliance testing in select areas and zones.

Operate S1 and INT wells for expedited in-situ bioremediation.

Ship surplus equipment.

Treatment of Cell D water.

Evaluate vegetation in Lagoon area; plant several alternative types.

Operate Data Base Management System.

Total Quality process.

Continue biological activity monitoring in S1 wells and INT wells.

MONTHLY PROGRESS REPORT
Summary**French Ltd. Project**
FLTG, Incorporated

Issue permeability results of INT-11 area containment wall tests.

Developed and issued aquifer compliance sampling plan and compliance criteria modeling plan.

Continue QA/QC data confirmation.

Optimize carbon usage in Water Treatment Plant.

Develop lagoon closure plan.

Submit MCC-1 area remediation report.

Continue wetlands restoration project.

2.6 Key Staffing Changes

None.

2.7 Percent Complete

Research & Development	- 98%
Facilities	- 100%
Slough	- 100%
Subsoil Investigation	-100%
Floodwall	-100%
Lagoon Remediation	-100%
Groundwater	- 73%
Lagoon Dewatering/Fixation	- 100%
Water Treatment	- 70%
Wetlands	- 45%
Demobilization	- 65%
Monitoring	- 57%

2.8 Schedule

All deliverables are on schedule.

MONTHLY PROGRESS REPORT
Summary

French Ltd. Project
FLTG, Incorporated

Complete active aquifer remediation by January 1, 1996.

2.9 Operations and Monitoring Data

The operations and monitoring data are submitted as parts of Sections 3.0, 4.0, 5.0, and 6.0 of this report, and the supporting data are stored in secure storage at the French project office.

MONTHLY PROGRESS REPORT
Summary

French Ltd. Project
FLTG, Incorporated

2.10 Credits Accrued/Applied

Status of Credits

	Accrued this period	Accrued to date	Applied this period	Applied to date	Running total
December 1990	34	34	0	0	34
December 1991	0	100	0	0	100
December 1992	0	101	0	2	99
January 1993	0	101	0	2	99
February 1993	0	101	0	2	99
March 1993	0	101	0	2	99
April 1993	0	101	0	2	99
May 1993	0	101	0	2	99
June 1993	0	101	0	2	99
July 1993	0	101	2	4	97
August 1993	2	103	0	4	99
September 1993	0	103	0	4	99
October 1993	0	103	0	4	99
November 1993	1	104	0	4	100
December 1993	0	104	0	4	100
January 1994	0	104	0	4	100
February 1994	0	104	0	4	100
March 1994	0	104	0	4	100
April 1994	0	104	0	4	100
May 1994	0	104	0	4	100
June 1994	0	104	0	4	100
July 1994	5	109	0	4	105
August 1994	0	109	0	4	105
September 1994	0	109	0	4	105
October 1994	0	109	0	4	105
November 1994	0	109	0	4	105
December 1994	0	109	0	4	105

MONTHLY PROGRESS REPORT
Summary

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2.11 Community Relations

Maintained 24-hour, call-in Hot Line.

Conducted four site tours for interested parties.

Contacted nearby local residents with update on site activities.

Contacted several Riverdale residents with site status report.

Sponsored Crosby Chamber of Commerce scholarship program.



MONTHLY PROGRESS REPORT
Lagoon Bioremediation

French Ltd. Project
FLTG, Incorporated

3.0 LAGOON

3.1 Summary of Activities

Evaluated test plots of various plants in Cell E; the Cypress and River Birch are stressed by lack of water. Planted a test plot of Oleanders. Evaluating a drip irrigation system.

Vegetated Cell F on two occasions with a grass seed blend.

Land applied about 100,000 gallons of "clean" Cell D water to Cell E.

Treated about 400,000 gallons of Cell D water through activated carbon.

Operated aerator in Cell D to expedite biomass degradation.

Evaluating various options for gradient control inside the lagoon.

3.2 Problems and Response Action

<u>Problem</u>	<u>Recommended Solution</u>
Ground cover growth slow in Cell E.	Hydroseed a rye grass blend. Water frequently. Evaluate different grass blends.
Poor tree growth in Cell E.	Evaluate different types of trees. Design an irrigation system.
Treat Cell D water.	Test subsurface injection. Treat through carbon absorbers.

MONTHLY PROGRESS REPORT
Lagoon Bioremediation

French Ltd. Project
FLTG, Incorporated

3.3 Problems Resolved

None.

3.4 Deliverables Submitted

None.

3.5 Upcoming Events and Activities

Maintain pH, DO, OUR, and nutrient levels in Cell D.

Operate aerator/mixer in Cell D.

Land apply Cell D water in the Cell E backfill.

Evaluate Cell D water treatment alternatives.

Hydroseed Cell E and Cell F as required.

Maintain vegetation in Cell E.

Plant cottonwood trees in Cell E as a test.



4.0 GROUNDWATER AND SUBSOIL REMEDIATION

4.1 Summary of Activities

4.1.1 Operation of Production and Injection Well Systems

Operation of the production and injection wells systems during December 1994 is summarized in Table 4-1. Flows from the production well system are summarized in Table 4-2 and Figure 4-1. Flows into the injection well system are summarized in Table 4-3 and Figure 4-2. Individual well flows are summarized in Table 4-4. There were no well additions or changes in December.

4.1.2 Operational Monitoring

Operational monitoring associated with the groundwater and subsoil remediation system during December 1994 is summarized in Table 4-5. Annual groundwater sampling at 109 monitoring wells was started on December 5 and was completed on December 21. Split samples were collected with EPA's contractor on December 6 through December 9. All monitoring wells in the December 1994 annual groundwater sampling event were pre-purged of several well volumes using a portable submersible electric purge pump. Electrical conductivity (EC) was used as an indicator of representative aquifer conditions. The post-flood well purging activity, completed on November 29, was in addition to the standard purging protocol performed immediately before sampling. During the annual monitoring event, water levels, total organic carbon (TOC), and dissolved oxygen (DO) monitoring were measured at monitoring wells. This data was used for monthly reporting.

4.1.3 Data Management and Evaluation

Operational monitoring data from the groundwater and subsoil remediation system for this reporting period were entered into FLTG's database. Tables and figures for this section of the Monthly Progress Report were generated from this database.

4.2 Problems and Response Actions

Groundwater production and injection rates were above target. Nutrient and dissolved oxygen concentrations in injection water were at or close to target levels. No specific response action is planned.

MONTHLY PROGRESS REPORT
Groundwater and Subsoil Remediation

French Ltd. Project
 FLTG, Incorporated

Table 4-1

Groundwater System Operation - December 1994 <i>Reporting Period: November 29 - December 27 (29 days)</i>	
Production System	
No. of production wells: 109 (S1 unit, 53; INT unit, 56)	
No. of operational wells by end of month: 98 (S1 unit, 42; INT unit, 56)	
Changes in system since last month: none.	
No. of wells off line having reached criteria: 9	
Other wells off line: S1-5, low water levels; S1-16, DNAPL pump down	
No. of wells on pulse pumping schedule: 10 (S1-45 not metered)	
No. of wells producing DNAPL: 0	
Groundwater produced: 6.6 M gal; 227.8 M gal since startup based on main meter	
Total production rate: avg. 157 gpm (target 140 gpm); range 72-193 gpm	
S1 production rate: avg. 94 gpm; avg. 2.4 gpm per metered well	
INT production rate: avg. 63 gpm; avg. 1.2 gpm per metered well	
Total flow rate apportioned between S1 and INT units based on individual well meter readings; average flows based on 29 days operation	
TOC (non-volatile) concentration avg. 80 ppm; range 22 - 363 ppm	
TOC mass removed: 4,610 lb. (359,755 lb. since startup); 159 lb./day	
Injection System	
No. of injection wells: 59 (S1 unit, 17; INT unit, 42)	
Rainfall during period: not recorded; climate station damaged in October flood.	
Changes in system since last month: none.	
Groundwater injected: 5.7 M gal (120.3 M gal since startup) based on main meters	
S1 unit injected: 2.3 M gal (64.1 M gal since startup)	
INT unit injected: 3.4 M gal (56.8 M gal since startup)	
Total injection rate: avg. 135 gpm (target 100 gpm); range 119 - 149 gpm	
S1 injection rate: avg. 55 gpm; avg. 3.2 gpm per well	
INT injection rate: avg. 80 gpm; avg. 1.9 gpm per well	
Total flow rate apportioned between S1 and INT units based on individual well meter readings; average flows based on 29 days operation	
Oxygen added to injection water: 9,113 lb.; 314 lb./day used (input efficiency = 22%)	
Avg. DO in injection water: S1, 37.2 ppm; INT, 45.6 ppm (target 40 ppm) \Rightarrow 68.4 lb./day	
Volume of 4.7% w/w KNO ₃ nutrient solution added to INT unit, and S1-North wells: 12,185 gal	
Nutrient flow rate: 420 gpd, 0.26% of INT + S1-North inflow rate (target 0.38%)	
Calculated injection water NO ₃ concentration: 34.6 mg/L-N (target 50 mg/L-N)	

Note that average monthly flow rates at individual wells (calculated from weekly individual well flow meter readings) are not used directly to determine S1 and INT unit inflows and outflows, but are used to apportion total production and injection flows (calculated from daily main production and injection meter readings) between S1 and INT units. Average flows are based on the 29 day reporting period.

MONTHLY PROGRESS REPORT
Groundwater and Subsoil Remediation

French Ltd. Project
 FLTG, Incorporated

Table 4-2

Daily Groundwater Production and TOC Removal
December 1994

Date	Project Day	T-101 Outflow Rate (FQ-101A)	T-101 Outflow Rate	T-101 Influent Ave. TOC	T-101 Influent TOC Loading
		(gpd)	(gpm)	(mg/L)	(kg/day)
29-Nov	1056	233,700	162	64	57
30-Nov	1057	235,200	163	109	97
1-Dec	1058	240,800	167	363	331
2-Dec	1059	202,800	141	53	41
3-Dec	1060	268,600	187	149	152
4-Dec	1061	270,600	188	248	254
5-Dec	1062	261,700	182	173	171
6-Dec	1063	252,700	175	115	110
7-Dec	1064	227,800	158	100	86
8-Dec	1065	234,700	163	84	75
9-Dec	1066	237,500	165	170	153
10-Dec	1067	234,200	163	59	52
11-Dec	1068	233,300	162	105	93
12-Dec	1069	233,600	162	72	64
13-Dec	1070	103,000	72	25	10
14-Dec	1071	193,000	134	68	50
15-Dec	1072	277,600	193	27	28
16-Dec	1073	271,700	189	23	24
17-Dec	1074	222,300	154	29	24
18-Dec	1075	227,700	158	26	22
19-Dec	1076	239,500	166	22	20
20-Dec	1077	241,600	168	24	22
21-Dec	1078	235,400	163	30	27
22-Dec	1079	221,600	154	27	23
23-Dec	1080	213,800	148	32	26
24-Dec	1081	214,000	149	27	22
25-Dec	1082	189,500	132	34	24
26-Dec	1083	166,800	116	28	18
27-Dec	1084	178,400	124	31	21
Month Average		226,314	157	80	72
Month Total		6,563,100			2,095

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Table 4-3

Daily Injection Flows
December 1994

Date	Project Day	INT South INT-90/100 S1 North Injection Wells FQ905		INT North (not INT-90/100) Injection Wells Meter FQ-906		S1 South Injection Wells Meter FQ-909		Total Injection Rate		Oxygen	Nutrients
		(gpd)	(gpm)	(gpd)	(gpm)	(gpd)	(gpm)	(gpd)	(gpm)	lbs	Gallons
29-Nov	1056	73,300	51	33,800	23	100,300	70	207,400	144	300	421
30-Nov	1057	76,900	53	34,000	24	102,700	71	213,600	148	300	450
1-Dec	1058	75,400	52	34,200	24	103,300	72	212,900	148	400	443
2-Dec	1059	72,100	50	33,800	23	102,600	71	208,500	145	500	229
3-Dec	1060	70,300	49	32,600	23	100,500	70	203,400	141	180	596
4-Dec	1061	69,600	48	32,600	23	100,400	70	202,600	141	370	410
5-Dec	1062	67,100	47	32,000	22	98,300	68	197,400	137	235	417
6-Dec	1063	67,800	47	32,800	23	95,800	67	196,400	136	370	289
7-Dec	1064	66,500	46	32,300	22	94,400	66	193,200	134	400	376
8-Dec	1065	63,300	44	30,500	21	93,000	65	186,800	130	300	431
9-Dec	1066	68,600	48	29,600	21	91,500	64	189,700	132	200	390
10-Dec	1067	71,700	50	29,900	21	91,600	64	193,200	134	400	420
11-Dec	1068	71,300	50	29,600	21	90,600	63	191,500	133	300	435
12-Dec	1069	83,600	58	29,500	20	72,600	50	185,700	129	300	398
13-Dec	1070	91,900	64	28,800	20	61,600	43	182,300	127	315	431
14-Dec	1071	80,900	56	27,600	19	68,000	47	176,500	123	280	447
15-Dec	1072	81,110	56	28,300	20	69,400	48	178,810	124	365	432
16-Dec	1073	79,900	55	28,200	20	69,200	48	177,300	123	300	424
17-Dec	1074	78,000	54	27,000	19	67,000	47	172,000	119	300	431
18-Dec	1075	78,200	54	28,600	20	67,100	47	173,900	121	300	431
19-Dec	1076	75,800	53	28,200	20	71,400	50	175,400	122	400	416
20-Dec	1077	74,300	52	28,600	20	95,600	66	198,500	138	208	379
21-Dec	1078	71,600	50	28,600	20	114,100	79	214,300	149	365	443
22-Dec	1079	70,900	49	28,500	20	113,200	79	212,600	148	235	439
23-Dec	1080	72,300	50	28,700	20	112,200	78	213,200	148	300	413
24-Dec	1081	73,400	51	28,900	20	106,900	74	209,200	145	220	428
25-Dec	1082	70,800	49	28,100	20	101,900	71	200,800	139	315	435
26-Dec	1083	69,100	48	28,300	20	100,900	70	198,300	138	360	466
27-Dec	1084	66,700	46	27,700	19	98,500	68	192,900	134	295	466
Month Average		73,531	51	30,045	21	91,538	64	195,114	135	314	420
Month Total		2,132,410		871,300		2,654,600		5,658,310		9,113	12,185

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Table 4-4
Average Production and Injection Flow Rates - December 1994

Flow rates are averages for the period November 29 - December 27 (29 days)

S1 Production Wells (53)		S1 Injection Wells (17)		INT Production Wells (56)		INT Injection Wells (42)	
Well ID	gpm	Well ID	gpm	Well ID	gpm	Well ID	gpm
S1-1	0.8	S1-48	1.2	INT-1	0.9	INT-63	0.0
S1-2	0.1	S1-50	1.8	INT-2	NM	INT-64	3.4
S1-3	0.6	S1-51	0.7	INT-3	0.1	INT-71	2.6
S1-4	0.2	S1-52	1.1	INT-4	0.3	INT-72	0.7
S1-5	OFF	S1-53	2.3	INT-5	1.1	INT-73	2.5
S1-6	0.4	S1-54	0.5	INT-6	0.3	INT-74	1.8
S1-7	0.0	S1-55	2.5	INT-7	0.2	INT-75	1.0
S1-8	0.3	S1-56	4.1	INT-8	1.0	INT-76	2.5
S1-9	0.3	S1-57	4.5	INT-9	1.0	INT-77	3.8
S1-10	0.5	S1-58	1.3	INT-10	3.1	INT-78	3.6
S1-11	0.8	S1-59	0.9	INT-11	0.6	INT-79	0.6
S1-12	NM	S1-65	2.1	INT-12	1.7	INT-80	1.0
S1-13	NM	S1-66	4.9	INT-13	0.5	INT-81	4.1
S1-14	0.2	S1-67	3.5	INT-14	0.2	INT-82	0.7
S1-15	0.4	S1-68	4.6	INT-15	0.7	INT-83	0.5
S1-16	OFF	S1-69	3.6	INT-16	0.2	INT-84	0.5
S1-17	0.7	S1-70	3.0	INT-17	0.1	INT-85	1.0
S1-18	1.8	Total	42.6	INT-18	0.5	INT-86	1.0
S1-19	1.8 PP	Average	2.5	INT-19	0.8	INT-87	0.7
S1-20	1.5	Wells S1-58, 59, 65, 66, 67, 68, 69, and 70 receive oxygen- and nutrient-amended injection water	Subtotal 23.8	INT-20	0.1	INT-88	1.7
S1-21	7.7			INT-21	0.4	INT-89	0.1
S1-22	0.7			INT-22	0.3	INT-90	4.7
S1-23	OFF			INT-23	0.1	INT-91	1.8
S1-24	4.7 PP			INT-24	0.5	INT-92	1.1
S1-25	1.5	All other S1 wells receive oxygenated injection water only		INT-25	0.5	INT-93	0.8
S1-26	5.7			INT-26	0.5	INT-94	0.8
S1-27	1.3	INT-27		1.6	INT-95	0.6	
S1-28	4.8	INT-28		0.5	INT-96	0.7	
S1-29	2.0	INT-29		2.7	INT-97	0.8	
S1-30	6.1	INT-30		0.5	INT-98	0.5	
S1-31	3.4 PP	INT-31		1.7	INT-99	3.7	
S1-32	3.2	INT-32		1.0	INT-100	0.1	
S1-33	OFF	INT-33		0.3	INT-201	1.2	
S1-34	OFF	INT-55		2.0	INT-202	0.7	
S1-35	OFF	INT-56		0.4	INT-203	1.0	
S1-36	OFF	INT-57		0.4	INT-204	1.2	
S1-37	OFF	INT-58		2.1	INT-218	1.3	
S1-38	OFF	INT-59		0.3	INT-219	1.0	
S1-39	8.5	INT-60		1.8	INT-220	1.6	
S1-40	7.0	INT-61		1.3	INT-221	0.7	
S1-41	4.4 PP	INT-62		1.2	INT-222	3.7	
S1-42	OFF	INT-65		NM	INT-223	0.8	
S1-43	OFF	INT-66		0.7	Total	62.6	
S1-44	5.4 PP	INT-206		0.9	Average	1.5	
S1-45	NM	INT-206		0.7	All INT injection wells receive oxygen- and nutrient-amended injection water		
S1-46	8.7 PP	INT-207		0.8			
S1-47	0.8 PP	INT-208		4.1			
S1-48	1.3 PP	INT-209		0.4			
S1-50	2.1 PP	INT-210		3.5			
S1-61	0.2	INT-211		NM			
S1-62	1.6	INT-212		1.8			
S1-63	0.3	INT-213		2.1			
S1-64	1.2	INT-214		6.3			
Total	84.2	INT-215		NM			
Average*	2.4	INT-216		0.6			
		INT-217		7.8			
		Total		63.4			
		Average		1.2			

Notes

OFF - well inoperative

NM - well running but not metered

PP - well in pulse pumping mode

* of metered wells

* of metered wells

Notes
OFF - well inoperative
NM - well running but not metered
PP - well in pulse pumping mode

Note: total and average flow rates for S1 and INT units are corrected (per main flow meter readings) for use in Table 4-1.

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Table 4-5

Operational Monitoring - December 1994

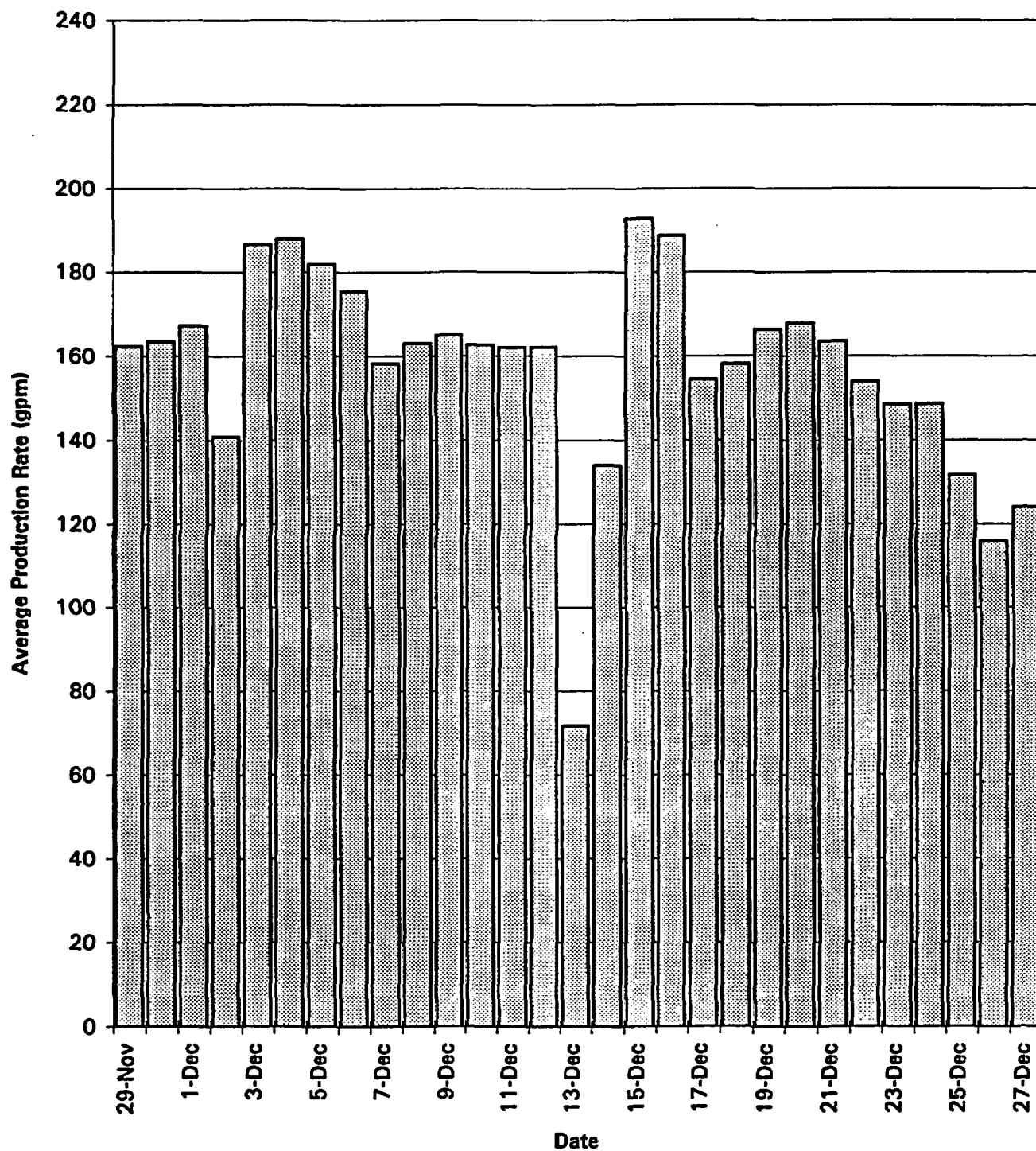
Activity	Frequency	Purpose
Check production and injection wells for pump, meter, and level control operation, injection pressure, gas buildup, and flow meter readings.	Weekly	Identify and respond to individual well problems; maintain operating efficiency.
Read groundwater treatment plant inflow and outflow meters; nutrient injection flow meters; oxygen flows, pressure and temperature; and injection header back pressure.	2x daily	Identify and respond to treatment plant problems; control nutrient and injection flow rates.
Measure T-101 influent TOC.	2x daily	Track TOC removal.
Measure dissolved oxygen at 11 representative S1 and INT injection wells	Weekly	Control oxygen injection.
Sample T-101 influent for VOC, TOC, and nutrient analysis, (1) from all operating production wells, and (2) from all wells located outside the floodwall.	Monthly	Develop chemical mass balance.
Sample groundwater at 109 monitoring wells; measure water levels before sampling; perform on-site TOC and DO analysis.	Annual/ Monthly	Annual plume definition; track TOC removal; monitor development of aerobic conditions.

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Figure 4-1

Production Flows

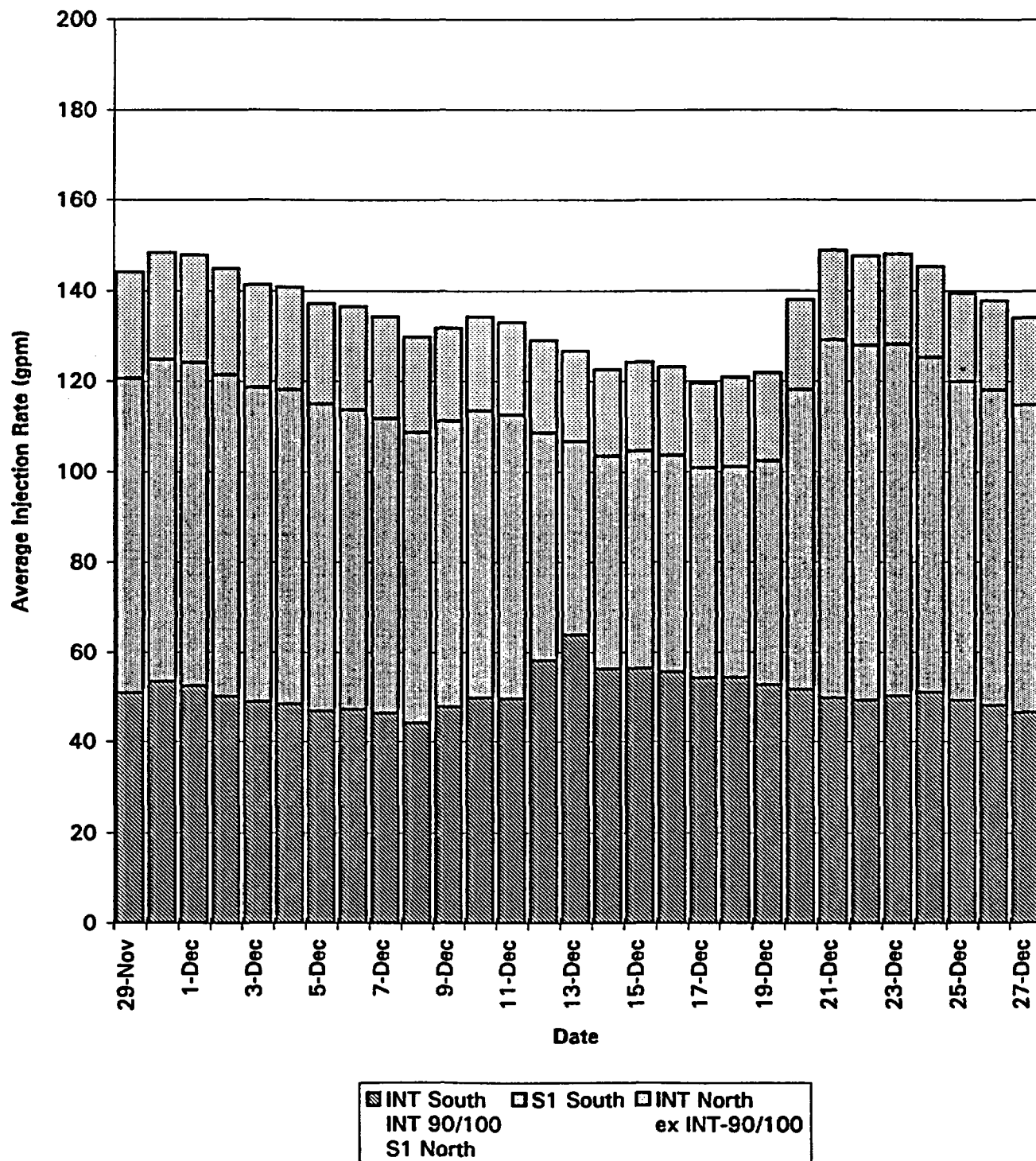


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Figure 4-2

Injection Flows



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4.3 Pending Issues

4.3.1 DNAPL Response

During December, work continued on evaluating the INT-11 DNAPL cutoff wall permeability certification testing results.

4.3.2 S1 Unit Pulse Pumping

Pulse pumping continued at wells S1-19, -24, -31, -40, -41, -44, -45, -46, -47, -48, and -60.

4.3.3 Phreatophytes

Cypress and river birch are not thriving; willow and cottonwood have been ordered.

4.4 Operational Refinements

A program of hydrofracturing with sand and nutrient injection is planned to start on January 3, 1995. Sand fracturing will be performed at 16 centers in the close west end area (see Figure 4-3). The purpose of this program is to accelerate nutrient delivery and contaminant attenuation in this part of the INT unit by increasing permeability.

4.5 Data Summary and Discussion

4.5.1 Groundwater Production and Injection

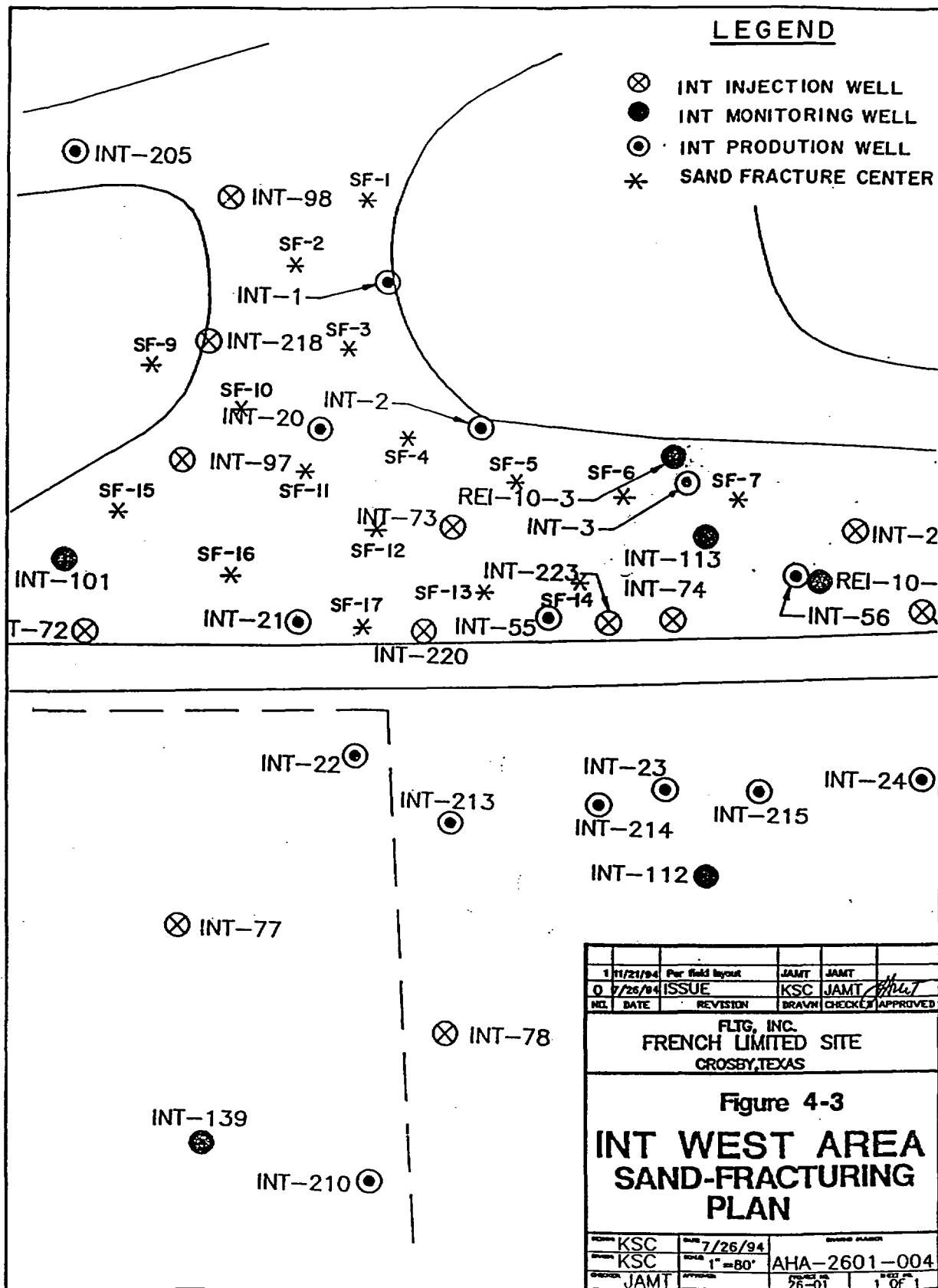
Groundwater production and injection rates were above target.

4.5.1 Groundwater Levels and Flow Directions

Water levels were measured at monitoring wells sampled for the annual groundwater monitoring program. Water level contour maps are presented in Figures 4-4 and 4-5. The current extent of contaminated groundwater is contained within the S1 and INT extraction system capture zones.

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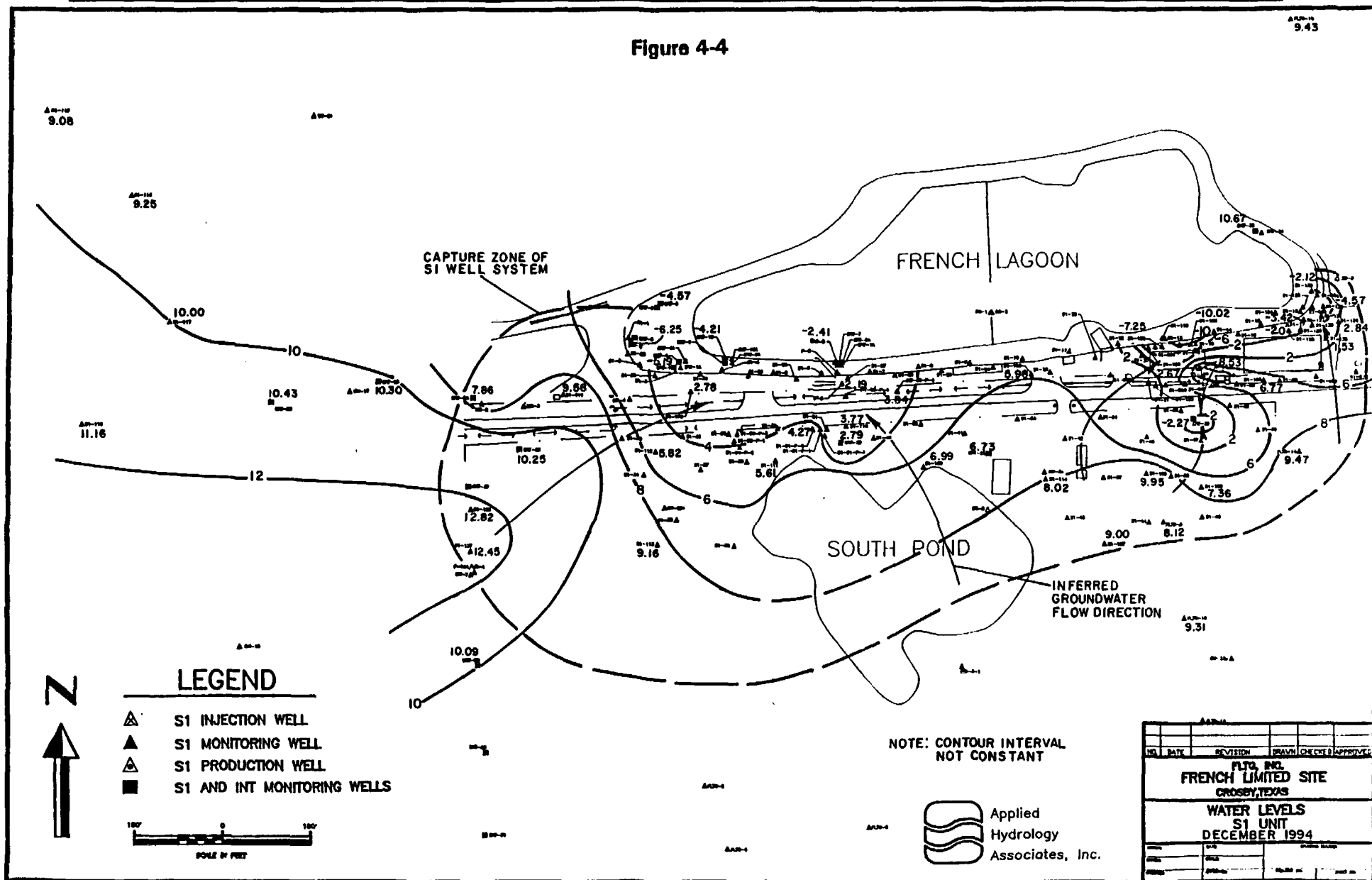


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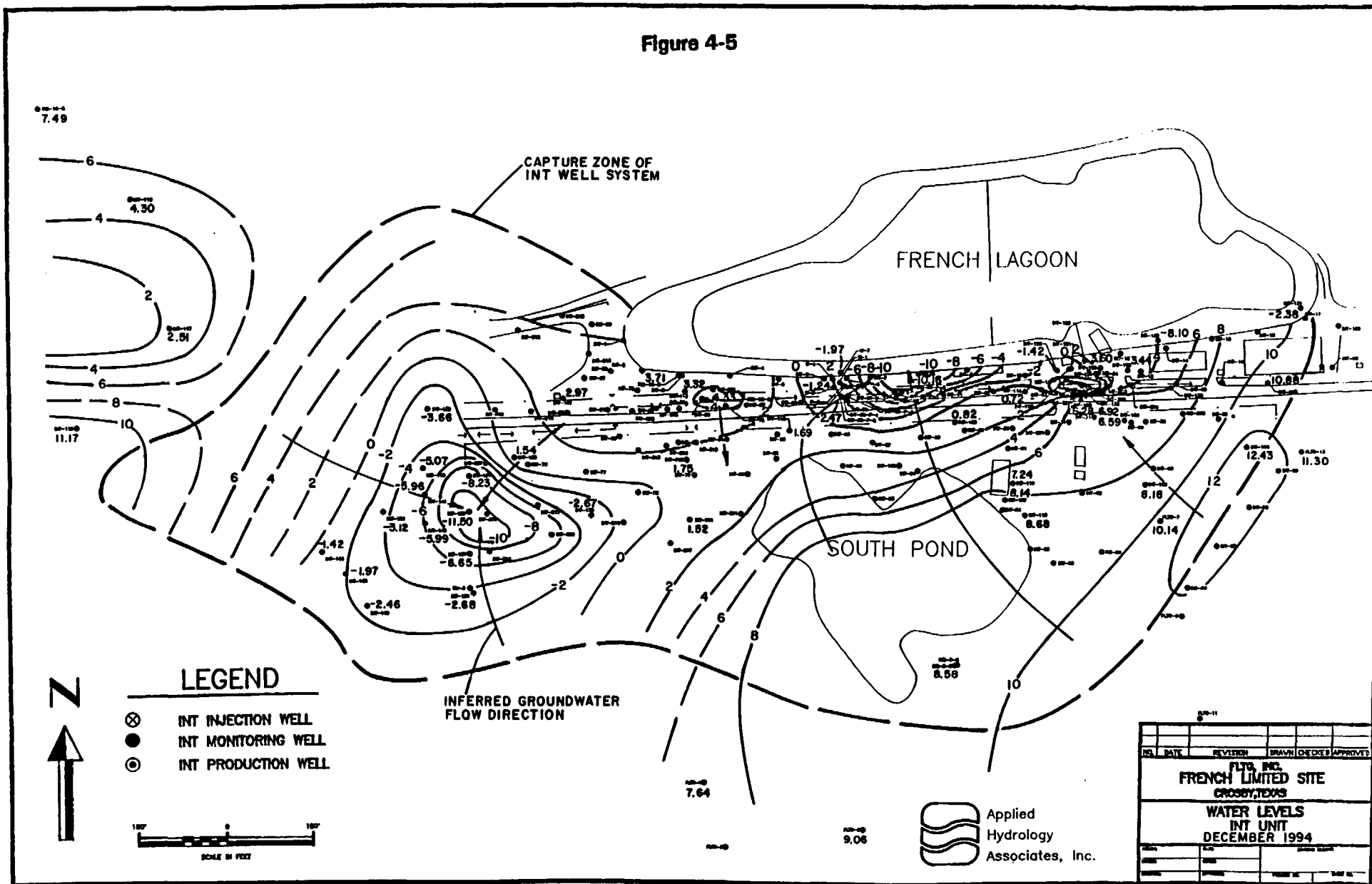
Figure 4-4



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Figure 4-5



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4.5.3 TOC in shallow groundwater

Samples were not collected at production wells in December. Samples for on-site TOC analysis were collected from the monitoring wells sampled for the annual groundwater monitoring program. TOC contour maps are presented in Figures 4-6 and 4-7. Areas with TOC > 25 ppm are reduced compared to November 1994. The history of daily flows, TOC concentration, and TOC input to T-101 is presented in Table 4-2. On-site TOC analyses measure non-purgeable organic carbon.

4.5.4 In-Situ Bioremediation

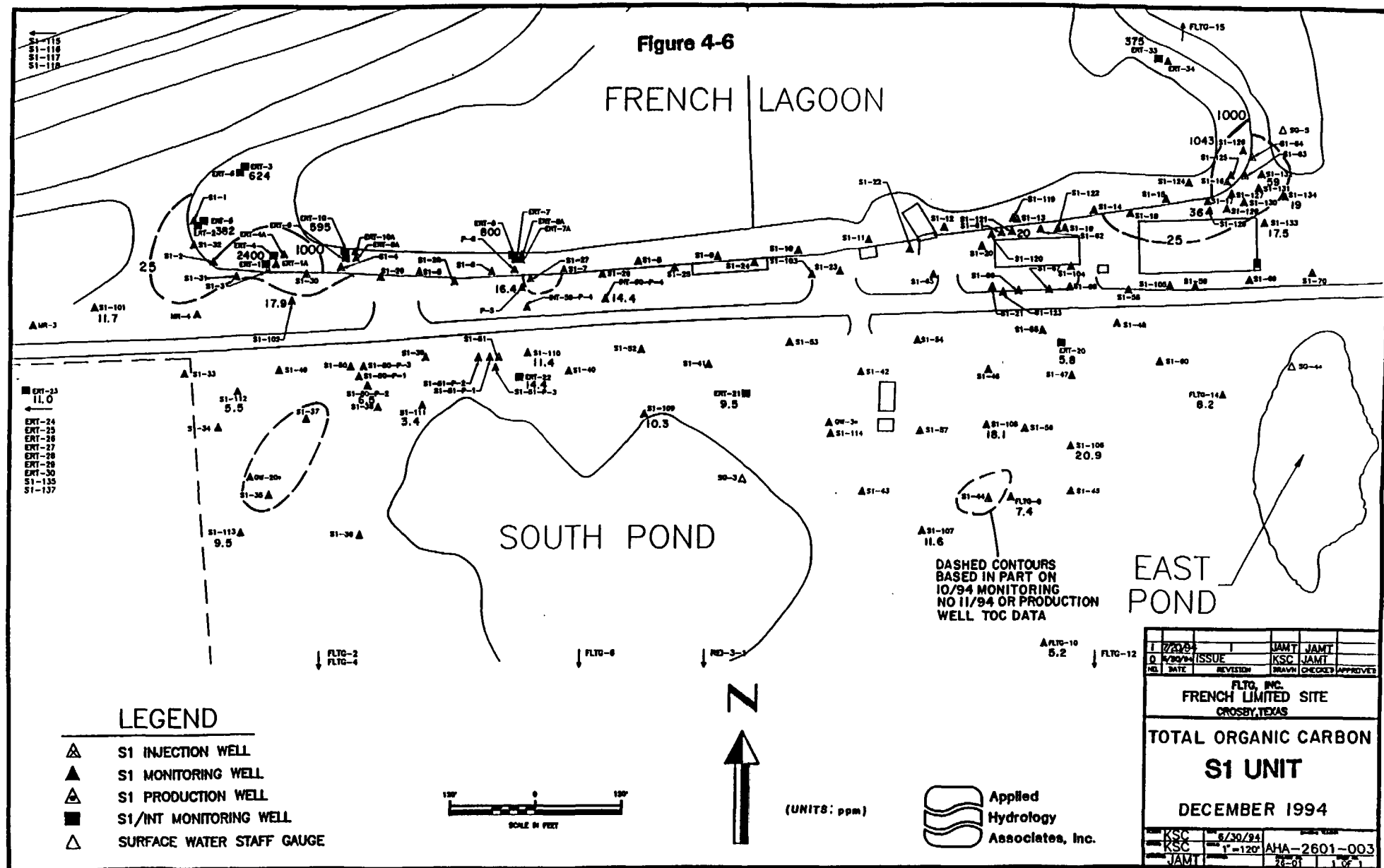
No major changes in in-situ bioremediation system operation were made in December. The emphasis continues to be to maximize delivery of oxygen and nutrients to the INT system. Dissolved oxygen (DO) monitoring was performed at the monitoring wells sampled for the annual groundwater monitoring program. DO concentration contour maps are presented in Figures 4-8 and 4-9. DO breakthrough was seen at S1-108. Otherwise, aerobic zones are becoming re-established after a 31-day break in injection.

4.6 Schedule

In January: the INT unit sand fracturing program will be performed.

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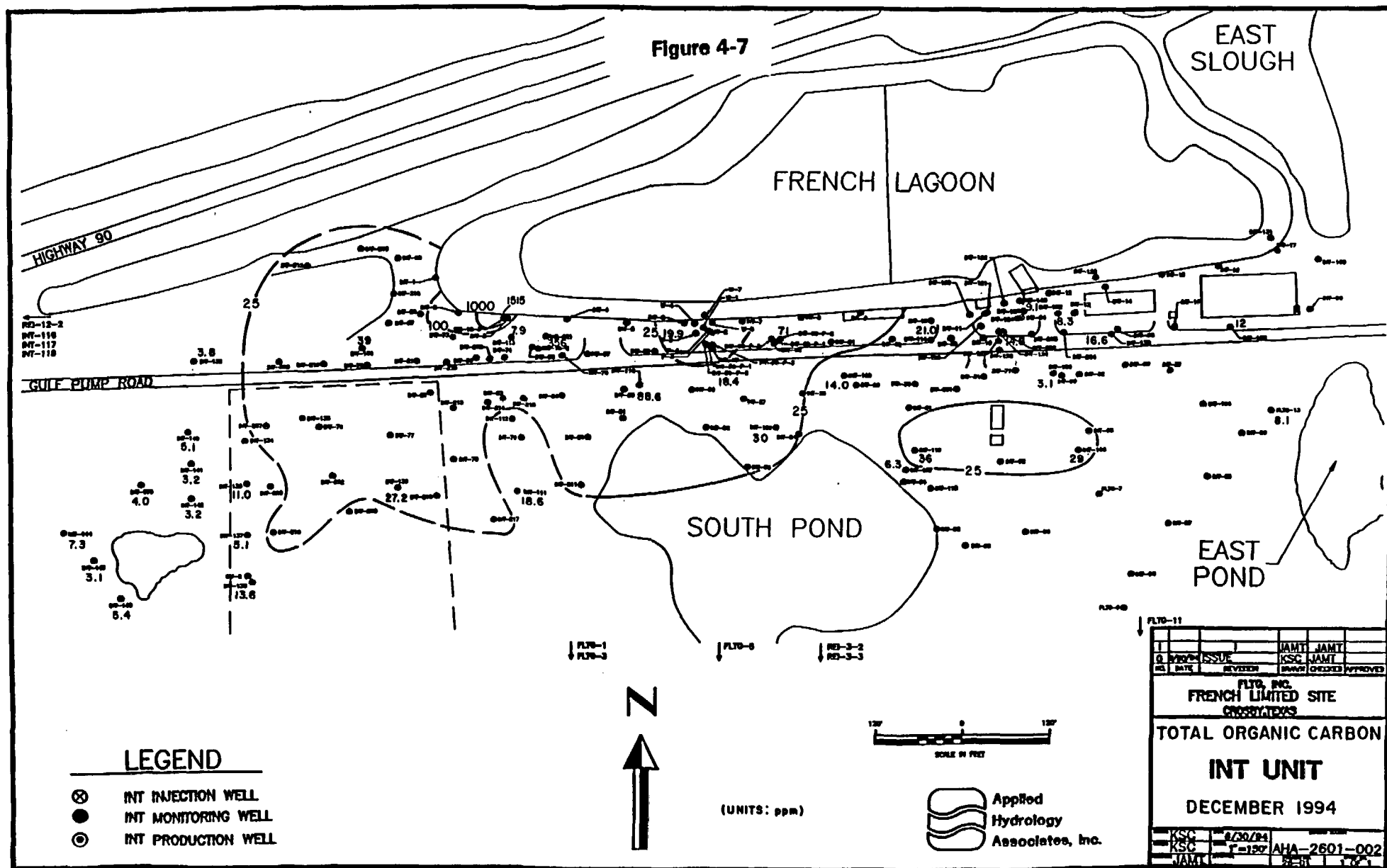
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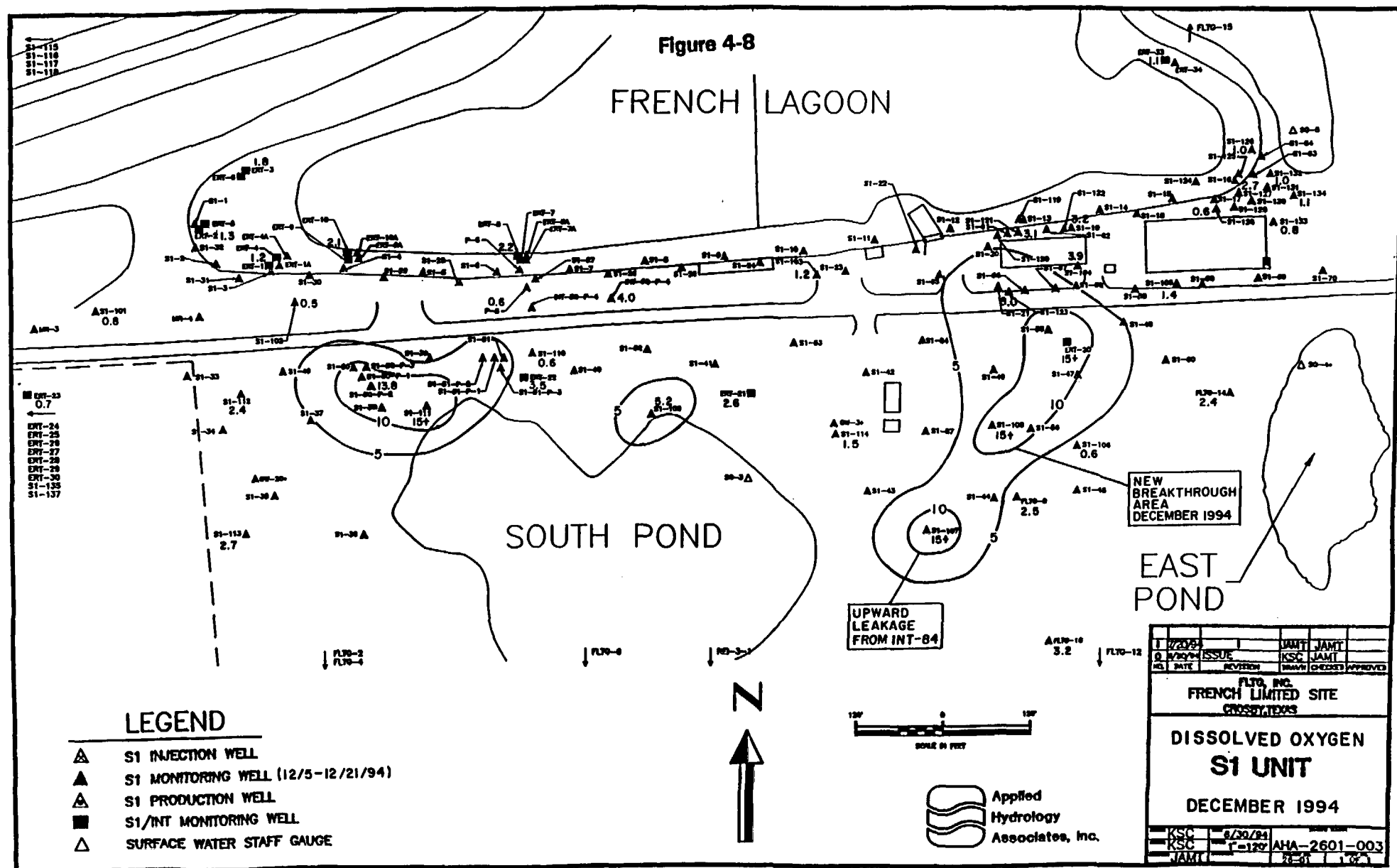
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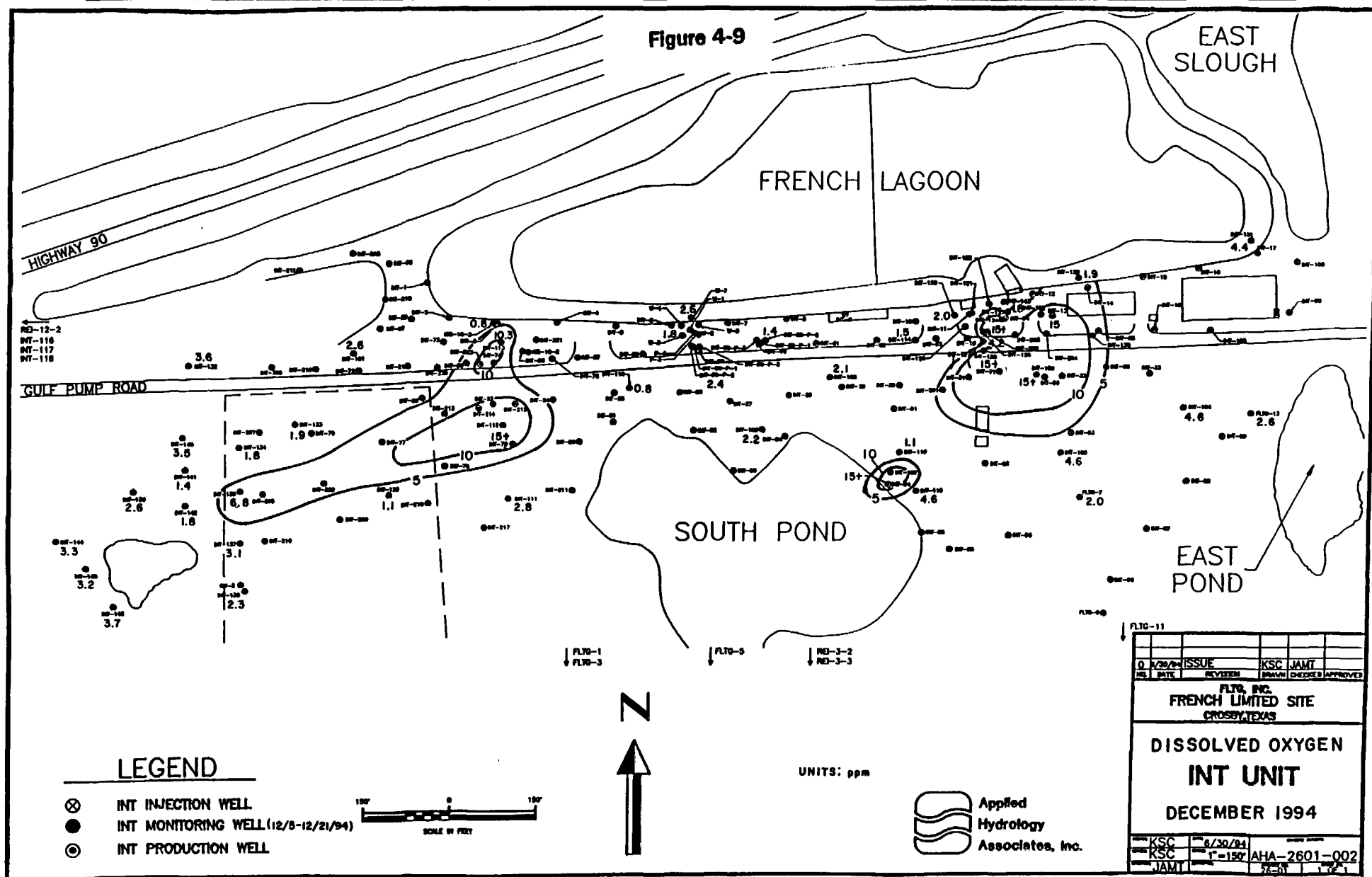
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5.0 GROUNDWATER TREATMENT PLANT

5.1 Summary of Activities

Operating conditions in the GWT plant stabilized in early December with no biological or hydraulic upsets. Mechanical, electrical, and instrumentation failures have been non-existent since mid November when automatic flow-through resumed.

Wet weather conditions in the first two weeks of December required operations to treat Cell D water through the GWT plant. Rainwater had saturated the area used for land application that resulted in Cell D not being dewatered for 3 weeks. This water was diverted to the sand filters to aid in TSS removal before the carbon filters. Cell D water was blended at this point with processed water from the production wells and discharged to the river, meeting volatile surface water standards, pH and TSS. (See Attachment 5A.) Four hundred thousand (400,000) gallons have been treated in December which resulted in lowering Cell D level to 1.5' of free board to allow for wasting capacity for several weeks.

Additional water could have been blended around the carbon filters, but in an effort to reduce the pounds of chlorinated hydrocarbons from the higher flows in December, the set points were reduced to compensate for the 1.647 ppm on November 24, 1994. QAQC reveals that this was a real number but operations logs show no unusual condition except activating two well circuits after the flood event. One of these circuits was S1 production wells inside the lagoon that historically provides the higher concentrations especially chlorinated hydrocarbons.

These wells have been shut down temporarily in addition to the above operational adjustments to help prevent an excursion in the future.

Total flows for December, 1994:

Water discharged to the San Jacinto River - 7,612,200 gallons

Water discharged to the Lagoon - 98,500

Sludge discharged to the Lagoon - 39,725 gallons

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Water processed through the GWT - 7,201,200 gallons

Water discharged to the South Pond - 0

Water blended passed Carbon Filter - 5,261,900 gallons

Water processed from Cell D to GWT plant: metered - 239,900 gallons

Water processed from Cell D to GWT plant: unmetered - 170,000 gallons

Beneficial land application of Cell D water: metered - 202,800 gallons

5.2 Inoculum/Nutrient Addition

The following have been introduced into the bioreactors/clarifier:

Nutrients:

320 gallons Diammonium Phosphate

Microbes:

32 oz. French Limited Isolated Microbes

Coagulant:

~ 4.3 gallons Percol 778 Cationic Polymer

5.3 Maintenance

Table 5-1 lists the preventive maintenance items performed in December.

5.4 Operating Data

Table 5-2 summarizes the laboratory analysis of the treated water discharged to the San Jacinto River.

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Groundwater Treatment Plant**French Ltd. Project**
FLTG, Incorporated**TABLE 5-1****Preventive Maintenance**

Day	Action
December 5	Safety inspection of all electrical tools, office equipment, and ladders completed.
December 9	Lubed and adjusted all sliding gates.
December 12	Lubed GWT equipment (pumps and blowers).
December 14	Carbon Transfer CF-1 and CF-2.
December 16	Lubed all red valves.
December 22	Lubed blowers 1, 2, & 3 and checked belt tension.

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TABLE 5-2
Treated Water Results Summary

Collected	Set No.	pH		TSS		TOC		O&G		Benzene		Chlor HC's		Total PCBs		Naphthalene	
		(6-9)		5 PPM		55 PPM		15 PPM		150 PPB		500 PPB		0.65 PPB		300 PPB	
		Daily	R-Avg	Daily	R-Avg	Daily	R-Avg	Daily	R-Avg	Daily	R-Avg	Daily	R-Avg	Daily	R-Avg	Daily	R-Avg
1-Aug-94	M03A0258	7.36		8.		33.9		2.5		6.		313.		.16		5.	
4-Aug-94	M03A0259	7.3		2.		33.6		2.5		2.5		203.		.16		5.	
8-Aug-94	M03A0260	7.25		3.		65.6		2.5		2.5		145.		.16		5.	
11-Aug-94	M03A0261	7.16		2.		81.		2.5		2.5		292.		.16		5.	
15-Aug-94	M03A0262	7.13		1.		76.3		2.5		6.		342.		.16		5.	
18-Aug-94	M03A0263	7.25		1.		26.1		2.5		2.5		104.		.16		5.	
22-Aug-94	M03A0264	7.33		1.		15.		2.5		2.5		242.		.16		5.	
25-Aug-94	M03A0265	7.46		2.		34.7		2.5		2.5		102.		.16		5.	
29-Aug-94	M03A0266	7.37	7.29	10.	3.33	23.5	43.3	2.5	2.5	2.5	3.28	56.	200	.16	.16	5.	5.
1-Sep-94	M03A0267	7.54	7.31	1.	2.56	23.7	42.17	2.5	2.5	2.5	2.89	44.	170	.16	.16	5.	5.
5-Sep-94	M03A0268	7.69	7.35	3.	2.67	37.2	42.57	2.5	2.5	2.5	2.89	152.	164	.16	.16	5.	5.
8-Sep-94	M03A0269	7.58	7.39	2.	2.66	37.8	39.48	2.5	2.5	2.5	2.89	52.	154	.16	.16	5.	5.
12-Sep-94	M03A0270	7.14	7.39	3.	2.67	38.7	34.78	2.5	2.5	2.5	2.89	152.	138	.16	.16	5.	5.
15-Sep-94	M03A0271	7.25	7.4	2.	2.78	38.3	30.56	2.5	2.5	2.5	2.5	680.	176	.16	.16	5.	5.
19-Sep-94	M03A0272	7.69	7.44	48.	7.78	36.2	31.68	2.5	2.5	6.	2.89	521.	222	.16	.16	5.	5.
22-Sep-94	M03A0273	7.55	7.46	5.	8.22	38.2	34.26	2.5	2.5	6.	3.28	524.	254	.16	.16	5.	5.
26-Sep-94	M03A0274	7.19	7.43	4.	8.44	37.3	34.54	2.5	2.5	2.5	3.28	523.	300	.16	.16	5.	5.
29-Sep-94	M03A0275	7.31	7.43	6.	8.	47.8	37.24	2.5	2.5	2.5	3.28	937.	398	.16	.16	5.	5.
3-Oct-94	M03A0276	7.36	7.41	1.	8.	43.	39.39	2.5	2.5	2.5	3.28	593.	459.	.16	.16	5.	5.
6-Oct-94	M03A0277	7.44	7.38	1.	7.78	43.1	40.04	2.5	2.5	6.	3.67	230.	468.	.16	.16	5.	5.
10-Oct-94	M03A0278	7.61	7.38	1.	7.67	18.7	37.92	2.5	2.5	6.	4.06	310.	497	.16	.16	5.	5.
13-Oct-94	M03A0279	7.28	7.4	1.	7.44	20.7	35.92	2.5	2.5	6.	4.44	380.	522	.16	.16	5.	5.
3-Nov-94	CF-Out 1103	7.39	7.41	6.	7.89	23.1	34.23	2.5	2.5	2.5	4.44	14.	448	.16	.16	5.	5.
14-Nov-94	M03A0282	7.4	7.39	9.	3.78	23.4	32.81	2.5	2.5	2.5	4.06	145.	406	.16	.16	5.	5.
17-Nov-94	M03A0283	7.38	7.37	2.	3.44	37.3	32.71	2.5	2.5	2.5	3.67	611.	418	.16	.16	5.	5.
21-Nov-94	M03A0284	7.27	7.38	4.	3.44	5.5	29.18	2.5	2.5	6.	4.06	423.	405	.16	.16	5.	5.
24-Nov-94	M03A0285	7.26	7.38	4.	3.22	38.8	28.18	2.5	2.5	25.	6.56	1647.	484	.16	.16	5.	5.
28-Nov-94	M03A0286	7.24	7.36	.5	3.17	44.7	28.37	2.5	2.5	12.5	7.67	668.	492	.16	.16	5.	5.
1-Dec-94	M03A0287	7.4	7.36	1.	3.17	34.8	27.44	2.5	2.5	6.	7.67	526.	525	.16	.16	5.	5.
5-Dec-94	M03A0288	7.57	7.35	1.	3.17	28.6	28.53	2.5	2.5	6.	7.67	305.	524	.16	.16	5.	5.
8-Dec-94	M03A0289	7.52	7.38	1.	3.17	40.6	30.74	2.5	2.5	6.	7.67	480.	635	.16	.16	5.	5.
12-Dec-94	M03A0290	7.43	7.39	4.	2.94	33.	31.84	2.5	2.5	8.	8.06	342.	572	.16	.16	5.	5.
15-Dec-94	M03A0291	8.13	7.47	.5	2.	23.	31.8	2.5	2.5	8.	8.44	145.	572	.16	.16	5.	5.
19-Dec-94	M03A0292	7.96	7.53	1.	1.89	29.3	30.91	2.5	2.5	2.5	8.44	75.	512	.16	.16	5.	5.
22-Dec-94	M03A0293	7.91	7.6	4.	1.89	17.8	32.28	2.5	2.5	2.5	8.06	170.	484	.16	.16	5.	5.
26-Dec-94	M03A0294	7.68	7.65	10.	2.56	41.8	32.61	2.5	2.5	6.	5.94	353.	340	.16	.16	5.	5.
29-Dec-94	M03A0295	7.79	7.71	1.	2.61	15.4	29.36	2.5	2.5	2.5	4.83	205.	289.	.16	.16	5.	5.

Discharge sample of 17-Oct destroyed in flood.

Chlorinated hydrocarbons value is sum of detected concentrations of 21 volatile chlorinated hydrocarbons on target compound list.

MONTHLY PROGRESS REPORT
Groundwater Treatment Plant

French Ltd. Project
FLTG, Incorporated

060315

TABLE 5-2 (Continued)
Treated Water Results Summary

Collected	Set No.	As		Ba		Cd		Cr		Cu		Pb		Mn		Hg		Ni		Se		Ag		Zn	
		150 PPB	200 PPB	50 PPB	500 PPB	15 PPB	65 PPB	300 PPB	1 PPB	148 PPB	20 PPB	5 PPB	162 PPB												
		Daily	R-Avg	Daily	R-Avg	Daily	R-Avg	Daily	R-Avg	Daily	R-Avg	Daily	R-Avg	Daily	R-Avg	Daily	R-Avg	Daily	R-Avg	Daily	R-Avg	Daily	R-Avg	Daily	R-Avg
1 Aug 94	M03A0258	8.		100.		.3		3.		141.		4.		15.		.1		5.		.8		.5		108.	
4 Aug 94	M03A0259	14.		104.		.3		.3		5.		.8		7.		.1		11.		.8		.5		10.	
8 Aug 94	M03A0260	11.		110.		.3		1.5		6.		.8		7.		.1		15.		2.		.5		14.	
11 Aug 94	M03A0261	14.		105.		.3		1.		3.		.8		5.		.1		10.		5.		.5		12.	
15 Aug 94	M03A0262	14.		94.		.3		.3		2.		.8		4.		.1		7.		.8		.5		9.	
18 Aug 94	M03A0263	14.		89.		.3		1.		5.		.8		3.		.1		14.		.8		.5		12.	
22 Aug 94	M03A0264	9.		70.		.3		.3		10.5		.8		3.		.1		2.		.8		.5		5.	
25 Aug 94	M03A0265	10.		88.		.3		.3		1.		.8		2.		.1		3.		.8		.5		3.	
29 Aug 94	M03A0266	20.	12.7	80.	93.3	.3	.3	3.	1.2	5.	19.8	.8	1.1	.5	5.2	.1	.1	10.	8.6	1.5	1.4	.5	.5	12.	20.3
1 Sep 94	M03A0267	14.	13.3	70.	90.	.3	.3	1.	.9	2.	4.4	.8	.8	3.	3.8	.1	.1	7.	8.8	.8	1.4	.5	.5	5.	9.1
5 Sep 94	M03A0268	17.	13.7	62.	85.3	1.3	.4	2.5	1.2	1.3	4.	1.3	.8	5.	3.6	.1	.1	10.	8.7	1.3	1.5	2.5	.7	8.	8.9
8 Sep 94	M03A0269	10.	13.6	50.	78.7	1.3	.5	2.5	1.3	1.3	3.4	1.3	.9	4.	3.3	.1	.1	5.	7.6	1.3	1.4	2.5	.9	3.8	7.8
12 Sep 94	M03A0270	12.	13.3	45.	72.	1.3	.6	2.5	1.6	4.	3.6	1.3	.9	3.	3.1	.1	.1	2.5	6.7	1.3	1.	2.5	1.2	10.	7.5
15 Sep 94	M03A0271	13.	13.2	50.	67.1	1.3	.7	2.5	1.7	3.	3.7	1.3	1.	1.3	2.8	.1	.1	7.	6.7	1.3	1.1	2.5	1.4	24.	9.2
19 Sep 94	M03A0272	10.	12.8	54.	63.2	1.3	.8	2.5	1.9	4.	3.6	1.3	1.	11.	3.6	.1	.1	5.	5.7	1.3	1.1	2.5	1.6	10.	9.
22 Sep 94	M03A0273	12.	13.1	64.	62.6	1.3	.9	2.5	2.1	4.	2.8	1.3	1.1	22.	5.8	.1	.1	5.	6.1	1.3	1.2	2.5	1.8	11.	9.6
26 Sep 94	M03A0274	14.	13.6	61.	59.8	1.3	1.	2.5	2.4	1.3	2.9	1.3	1.1	4.	6.	.1	.1	5.	6.3	1.3	1.2	1.3	1.9	3.8	9.7
29 Sep 94	M03A0275	15.	13.	78.	59.3	1.3	1.1	2.5	2.3	1.3	2.6	1.3	1.2	5.	6.6	.1	.1	5.	5.7	1.3	1.2	2.5	2.1	10.	9.6
3 Oct 94	M03A0276	13.	12.9	60.	58.2	1.3	1.3	2.5	2.5	3.	2.6	1.3	1.3	11.	7.4	.1	.1	20.	7.2	1.3	1.3	2.5	2.4	9.	9.9
6 Oct 94	M03A0277	14.	12.6	73.	59.4	1.3	1.3	2.5	2.5	3.	2.8	1.3	1.3	9.	7.8	.1	.1	2.5	6.3	1.3	1.3	2.5	2.4	3.8	9.5
10 Oct 94	M03A0278	11.	12.7	58.	60.3	1.3	1.3	2.5	2.5	3.	3.	1.3	1.3	1.3	7.5	.1	.1	1.3	5.9	1.3	1.3	2.5	2.4	10.	10.2
13 Oct 94	M03A0279	10.	12.4	70.	63.1	1.3	1.3	2.5	2.5	2.5	2.8	1.3	1.3	3.	7.5	.1	.1	2.5	5.9	1.3	1.3	2.5	2.4	3.8	9.5
3 Nov 94	CF-Out 1103	46	18.1	32.	61.1	.1	1.1	5.	2.8	5.	3.	.5	1.2	21.	9.7	.1	.1	7.	5.9	1.3	1.3	.2	2.1	50.	12.4
14 Nov 94	M03A0282	30.	18.3	12.	56.4	.1	1.	.2	2.5	3.	2.9	.5	1.1	.1	8.5	.1	.1	.1	5.4	1.2	1.2	.2	1.8	3.	11.6
17 Nov 94	M03A0283	15.	18.7	51.	55.	.1	.9	2.	2.5	2.	2.7	.5	1.	14.	7.6	.1	.1	6.	5.7	1.2	1.2	.2	1.6	6.	11.
21 Nov 94	M03A0284	10.	18.2	50.	63.8	.1	.7	.2	2.2	2.	2.8	.5	.9	6.	7.8	.1	.1	4.	5.6	1.2	1.2	.2	1.5	4.	11.1
24 Nov 94	M03A0285	16.	18.3	79.	53.9	.1	.6	1.	2.	2.	2.8	.5	.8	27.	10.3	.1	.1	7.	5.8	1.3	1.2	.2	1.2	1.5	10.1
28 Nov 94	M03A0286	6.	17.6	115.	60.	.1	.5	.2	1.8	2.	2.7	.5	.8	18.	11.	.1	.1	7.	4.4	1.3	1.2	.2	.9	6.	9.8
1 Dec 94	M03A0287	11.	17.2	109.	64.	.1	.4	.5	1.6	1.	2.5	.5	.7	7.	10.8	.1	.1	10.	5.2	1.3	1.2	.5	.7	4.	9.8
5 Dec 94	M03A0288	12.	17.3	121.	71.	.1	.2	1.	1.4	3.	2.5	1.	.6	19.	12.8	.1	.1	.9	5.2	1.3	1.2	.5	.5	8.	9.7
8 Dec 94	M03A0289	14.	17.8	128.	77.4	.1	.1	1.	1.2	.3	2.3	.5	.6	3.	12.8	.1	.1	10.	6.	1.3	1.2	.2	.2	3.8	9.7
12 Dec 94	M03A0290	7.	13.4	154.	91.	.1	.1	7.	1.4	4.	2.1	.5	.6	9.	11.5	.1	.1	13.	6.7	1.3	1.2	.2	.2	5.	4.7
15 Dec 94	M03A0291	49.	15.6	92.	99.9	.1	.1	2.	1.6	.7	1.9	.5	.6	3.	11.8	.1	.1	1.	6.8	5.	1.7	.2	.2	5.	4.9
19 Dec 94	M03A0292	16.	15.7	93.	104.6	.1	.1	1.	1.5	1.	1.8	.5	.6	3.	10.6	.1	.1	2.	6.1	1.	1.6	.2	.2	4.	4.7
22 Dec 94	M03A0293	17.	16.4	130.	113.4	.1	.1	.2	1.5	1.4	1.7	.5	.8	2.	10.1	.1	.1	2.	5.9	1.3	1.6	.2	.2	1.5	4.4
26 Dec 94	M03A0294	11.	15.9	151.	121.4	.1	.1	.2	1.4	1.8	1.7	.5	.6	8.	8.1	.1	.1	4.	5.5	1.3	1.6	.2	.2	6.	4.9
29 Dec 94	M03A0295	18.	17.2	114.	121.3	.2	.1	1.	1.5	1.	1.6	.5	.6	4.	6.6	.1	.1	3.	6.1	5.	2.1	.2	.2	4.	4.7

of 17-Oct destroyed in flood.
is values in PPB.

MONTHLY PROGRESS REPORT
Groundwater Treatment Plant

French Ltd. Project
FLTG, Incorporated

ATTACHMENT 5A

River Discharge Samples

River Discharge Samples

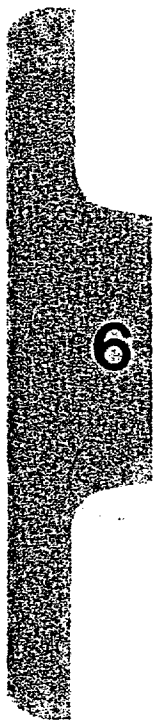
Sample Name => River Discharge
Date Collected => 23-Dec-94

Compound		
Chloromethane	10	U
Bromomethane	10	U
Vinyl chloride	10	U
Chloroethane	10	U
Methylene Chloride	5	
Acetone	10	U
Carbon disulfide	5	U
1,1-Dichloroethene	5	U
1,1-Dichloroethane	4	
1,2-Dichloroethene(Total)	21	
Chloroform	180	
1,2-Dichloroethane	10	
2-Butanone	10	U
1,1,1-Trichloroethane	5	U
Carbon Tetrachloride	5	U
Vinyl acetate	10	U
Bromodichloromethane	5	U
1,2-Dichloropropane	5	U
cis-1,3-Dichloropropene	5	U
Trichloroethene	3	
Dibromochloromethane	5	U
1,1,2-Trichloroethane	5	U
Benzene	5	U
trans-1,3-Dichloropropene	5	U
2-Chloroethylvinyl ether	5	U
Bromoform	5	U
4-Methyl-2-pentanone	10	U
2-Hexanone	10	U
Tetrachloroethene	3	
1,1,2,2-Tetrachloroethane	5	U
Toluene	5	U
Chlorobenzene	5	U
Ethylbenzene	5	U
Styrene	5	U
Xylene (total)	5	U

Total Chlorinated Volatile Hydrocarbons = 226 PPB

All values in ug/L.

U = compound is undetected at listed detection limit.



MONTHLY PROGRESS REPORT
Ambient Air Management

French Ltd. Project
FLTG, Incorporated

6.0 AMBIENT AIR MANAGEMENT

Ambient air quality management continued on an "as-needed" basis to protect the environment, human health, and site workers.

6.1 Summary of Activities

Collected and analyzed three time-integrated personnel exposure samples; the measured levels of volatile organic compounds were well below the action levels.

Sampled the ambient air in all work areas several times per shift and on a random "spot-check" basis; there were no levels of volatile organic compounds which required response action. Sampled ambient air in special work areas where burning and/or welding was planned. Sampled ambient air continuously in areas where exposure could occur.

6.2 Problems and Response Action

<u>Problem</u>	<u>Response Action</u>
Calibrate portable vapor meters.	Train operators to calibrate; refurbish all meters.
Sampling "hot" wells.	Require respirator use when sampling "hot" wells.
Ambient air quality in all work areas.	Check all work areas with portable meter several times per day.
H ₂ S levels in some well vaults.	Vent vault and purge with air before working in the vaults.

MONTHLY PROGRESS REPORT
Ambient Air Management

French Ltd. Project
FLTG, Incorporated

6.3 Problems Resolved

None.

6.4 On-going Events/Activities

Measure ambient air quality in all work areas several times per day.

Conduct periodic time-integrated sampling in all major work areas.

Require respiratory protection when sampling "hot" wells.

Conduct necessary air sampling and analyses to issue "burn" permits.

Closely monitor ambient air quality in the vicinity of new projects/activities.

Conduct respirator fit tests on all employees.

7.0 QUALITY ASSURANCE/QUALITY CONTROL

7.1 Summary of Activities

7.1.1 Sampling

One set of personal air monitoring samples were collected in December. The following is a summary of current routine and special air matrix code sample specifics:

MATRIX CODE	SAMPLE SPECIFICS
M01D	TF at three locations
TF = Tenax® front tube	

Table 7-1 is a summary of the air, soil and water samples collected for the month of December. Table 7-2 is a summary of Scheduled Sampling Events for the month of December.

7.1.2 Data Validation Activities Summary

7.1.2.1 Treated Water Samples

Data validation was completed for sample sets M03A0282, M03A0283, M03A0284 and M03A0285. These samples were collected between November 14, 1994 and November 24, 1994. QC failures are summarized in Table 7-3. Completeness values are summarized in Tables 7-4 through 7-8.

7.1.2.2 Groundwater Samples

Level I data validation has begun on sample sets collected during the 1994 annual groundwater sampling event. QC summaries and completeness values for this sampling event will be reported as soon as all data has been validated.

7.1.2.3 Other Samples

All other special sample sets were validated manually this period.

MONTHLY PROGRESS REPORT
Quality Assurance/Quality Control

French Ltd. Project
FLTG. Incorporated

7.2 Data Validation QC Summary and Discussion

7.2.1 Level I and Level II QC Philosophy

The Quality Assurance Project Plan (QAPP) defines data validity in terms of procedural requirements which must be followed for data comparability, and numerical data quality objectives which must be met to assure precision and accuracy of the results. Precision, accuracy and completeness are the numerical Data Quality Objectives (DQOs) established for the French Project by the QAPP. The intent of the data validation process is to verify that the documentation and quality control data provided by the laboratory properly substantiate the required data quality.

For purposes of data validation procedures, the QAPP defines two QC levels: Level I and Level II. Level I data validation is specified for process control and progress monitoring sample data validation and Level II data validation is specified for remediation verification sample results and treated water discharge sample results.

7.2.2 QA Issues

7.2.2.1 EPA / FLTG Laboratory Audit

The annual EPA laboratory audit was conducted on November 29th and 30th at the American Analytical and Technical Services facility in Baton Rouge, Louisiana. Ron Jansen of the French Ltd. Project and the EPA contract auditor Andres Romeu of QAL, Inc. performed the audit. An audit report was issued from the audit contractor and is attached (Attachment 7-A). FLTG, Inc. issued responses to the audit report on December 19, 1994 (Attachment 7-B). Laboratory responses to the audit findings/recommendations are expected by the end of January.

MONTHLY PROGRESS REPORT
Quality Assurance/Quality Control

French Ltd. Project
 FLTG. Incorporated

TABLE 7-1**Samples Collected - December, 1994**

<u>Sample No.</u>	<u>Description</u>	<u>Location</u>	<u>Date Samp'd</u>	<u>Lab Rec'd</u>	<u>Data Rec'd</u>	<u>Lab</u>
M01D004901	Personal air monitoring	Well Sampler	12/14	12/15	Y	A
M01D004902	Personal air monitoring	GWT Operator	12/14	12/15	Y	A
M01D004903	Personal air monitoring	Well Maint.	12/14	12/15	Y	A
M03A028701	Treated water discharge	CF Out	12/01	12/02	Y	A
M03A028801	Treated water discharge	CF Out	12/05	12/07	Y	A
M03A028901	Treated water discharge	CF Out	12/08	12/09	Y	A
M03A029001	Treated water discharge	CF Out	12/12	12/14	Y	A
M03A029101	Treated water discharge	CF Out	12/15	12/16	N	A
M03A029201	Treated water discharge	CF Out	12/19	12/21	N	A
M03A029301	Treated water discharge	CF Out	12/22	12/23	N	A
M03A029401	Treated water discharge	CF Out	12/26	12/28	N	A
M03A029501	Treated water discharge	CF Out	12/29	12/30	N	A
M04A002001	Annual groundwater monitoring	ERT-023	12/05	12/06	Y	A
M04A002201	Annual groundwater monitoring	INT-116	12/13	12/14	N	A

Labs: A = American Analytical and Technical Services
 N = North Water District Lab

MONTHLY PROGRESS REPORT
Quality Assurance/Quality Control

French Ltd. Project
 FLTG. Incorporated

TABLE 7-1**Samples Collected - December, 1994**

<u>Sample No.</u>	<u>Description</u>	<u>Location</u>	<u>Date Samp'd</u>	<u>Lab Rec'd</u>	<u>Data Rec'd</u>	<u>Lab</u>
M04A002202	Annual groundwater monitoring	S1-116	12/13	12/14	N	A
M04A002203	Annual groundwater monitoring	S1-117	12/13	12/14	N	A
M04A002204	Annual groundwater monitoring	S1-115	12/13	12/14	N	A
M04A002205	Annual groundwater monitoring	REI-12-2	12/13	12/14	N	A
M04A002206	Annual groundwater monitoring	INT-117	12/13	12/14	N	A
M04A002207	Annual groundwater monitoring	REI-7	12/13	12/14	N	A
M04A002301	Annual groundwater monitoring	REI-3-4	12/15	12/16	N	A
M04A002501	Annual groundwater monitoring	REI-11	12/16	12/17	N	A
M04A002502	Annual groundwater monitoring	S2-101	12/16	12/17	N	A
M04A002601	Annual groundwater monitoring	ERT-033	12/17	12/18	N	A
M04A002701	Annual groundwater monitoring	INT-129	12/21	12/22	N	A
M04A002702	Annual groundwater monitoring	INT-131	12/21	12/22	N	A
M04B001501	Annual groundwater monitoring	INT-106	12/05	12/06	Y	A
M04B001502	Annual groundwater monitoring	INT-108	12/05	12/06	Y	A
M04B001601	Annual groundwater monitoring	INT-060-P-4	12/10	12/11	N	A
M04B001602	Annual groundwater monitoring	INT-111	12/10	12/11	N	A

Labs: A = American Analytical and Technical Services
 N = North Water District Lab

MONTHLY PROGRESS REPORT
Quality Assurance/Quality Control

French Ltd. Project
FLTG. Incorporated

TABLE 7-1

Samples Collected - December, 1994

Sample No.	Description	Location	Date Samp'd	Lab Rec'd	Data Rec'd	Lab
M04B001603	Annual groundwater monitoring	INT-136	12/10	12/11	N	
M04B001604	Annual groundwater monitoring	INT-140	12/10	12/11	N	
M04B001605	Annual groundwater monitoring	INT-141	12/10	12/11	N	
M04B001606	Annual groundwater monitoring	INT-142	12/10	12/11	N	
M04B001701	Annual groundwater monitoring	INT-144	12/11	12/12	N	
M04B001702	Annual groundwater monitoring	INT-145	12/11	12/12	N	
M04B001703	Annual groundwater monitoring	INT-146	12/11	12/12	N	
M04B001705	Annual groundwater monitoring	FLTG-010	12/11	12/12	N	
M04B001706	Annual groundwater monitoring	INT-138	12/11	12/12	N	
M04B001707	Annual groundwater monitoring	S1-107	12/11	12/12	N	
M04B001801	Annual groundwater monitoring	S1-113	12/12	12/13	N	
M04B001802	Annual groundwater monitoring	ERT-021	12/12	12/13	N	
M04B001803	Annual groundwater monitoring	FLTG-008	12/12	12/13	N	
M04B001804	Annual groundwater monitoring	S1-050-P-2	12/12	12/13	N	
M04B001805	Annual groundwater monitoring	ERT-020	12/12	12/13	N	
M04B001806	Annual groundwater monitoring	FLTG-014	12/12	12/13	N	
M04B001807	Annual groundwater monitoring	FLTG-013	12/12	12/13	N	

Labs: A = American Analytical and Technical Services
N = North Water District Lab

MONTHLY PROGRESS REPORT
Quality Assurance/Quality Control

French Ltd. Project
FLTG. Incorporated

TABLE 7-1

Samples Collected - December, 1994

<u>Sample No.</u>	<u>Description</u>	<u>Location</u>	<u>Date Samp'd</u>	<u>Lab Rec'd</u>	<u>Data Rec'd</u>	<u>Lab</u>
M04B001901	Annual groundwater monitoring	S1-112	12/13	12/14	N	
M04B001902	Annual groundwater monitoring	INT-112	12/13	12/14	N	
M04B002001	Annual groundwater monitoring	REI-3-3	12/14	12/15	N	
M04B002002	Annual groundwater monitoring	FLTG-007	12/14	12/15	N	
M04B002003	Annual groundwater monitoring	S1-114	12/14	12/15	N	
M04B002004	Annual groundwater monitoring	INT-128	12/14	12/15	N	
M04B002007	Annual groundwater monitoring	INT-133	12/14	12/15	N	
M04B002101	Annual groundwater monitoring	INT-107	12/15	12/16	N	
M04B002103	Annual groundwater monitoring	S1-106	12/15	12/16	N	
M04B002104	Annual groundwater monitoring	ERT-022	12/15	12/16	N	
M04B002105	Annual groundwater monitoring	S1-110	12/15	12/16	N	
M04B002106	Annual groundwater monitoring	S1-133	12/15	12/16	N	
M04B002201	Annual groundwater monitoring	INT-114	12/16	12/17	N	
M04B002202	Annual groundwater monitoring	INT-115	12/16	12/17	N	
M04B002203	Annual groundwater monitoring	INT-139	12/16	12/17	N	
M04B002204	Annual groundwater monitoring	INT-103	12/16	12/17	N	
M04B002301	Annual groundwater monitoring	REI-10-2	12/17	12/18	N	

Labs: A = American Analytical and Technical Services
N = North Water District Lab

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French Ltd. Project
FLTG. Incorporated

TABLE 7-1

Samples Collected - December, 1994

<u>Sample No.</u>	<u>Description</u>	<u>Location</u>	<u>Date Samp'd</u>	<u>Lab Rec'd</u>	<u>Data Rec'd</u>	<u>Lab</u>
M04B002302	Annual groundwater monitoring	INT-060-P-2	12/17	12/18	N	
M04B002303	Annual groundwater monitoring	REI-10-3	12/17	12/18	N	
M04B002304	Annual groundwater monitoring	S1-121	12/17	12/18	N	
M04B002305	Annual groundwater monitoring	S1-134	12/17	12/18	N	
M04B002306	Annual groundwater monitoring	S1-132	12/17	12/18	N	
M04B002307	Annual groundwater monitoring	INT-119	12/17	12/18	N	
M04B002308	Annual groundwater monitoring	S1-128	12/17	12/18	N	
M04B002309	Annual groundwater monitoring	S1-122	12/17	12/18	N	
M04B002401	Annual groundwater monitoring	FLTG-005	12/19	12/20	N	
M04B002402	Annual groundwater monitoring	FLTG-001	12/19	12/20	N	
M04B002403	Annual groundwater monitoring	FLTG-015	12/19	12/20	N	
M04B002404	Annual groundwater monitoring	INT-127	12/19	12/20	N	
M04B002405	Annual groundwater monitoring	INT-123	12/19	12/20	N	
M04B002501	Annual groundwater monitoring	INT-126	12/21	12/22	N	
M04B002502	Annual groundwater monitoring	INT-134	12/21	12/22	N	
M04B002503	Annual groundwater monitoring	S1-127	12/21	12/22	N	
M04B002504	Annual groundwater monitoring	S1-123	12/21	12/22	N	
M04C001501	Annual groundwater monitoring	ERT-025	12/05	12/06	Y	

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FLTG. Incorporated

TABLE 7-1

Samples Collected - December, 1994

<u>Sample No.</u>	<u>Description</u>	<u>Location</u>	<u>Date Samp'd</u>	<u>Lab Rec'd</u>	<u>Data Rec'd</u>	<u>Lab</u>
M04C001601	Annual groundwater monitoring	ERT-026	12/11	12/12	N	
M04C001701	Annual groundwater monitoring	ERT-024	12/21	12/22	N	
M04D001401	Annual groundwater monitoring	INT-110	12/06	12/07	N	
M04D001402	Annual groundwater monitoring	S1-101	12/06	12/07	N	
M04D001403	Annual groundwater monitoring	S1-135	12/06	12/07	N	
M04D001404	Annual groundwater monitoring	S1-109	12/06	12/07	N	
M04D001405	Annual groundwater monitoring	S1-111	12/06	12/07	N	
M04D001406	Annual groundwater monitoring	INT-132	12/06	12/07	N	
M04D001407	Annual groundwater monitoring	INT-550	12/06	12/07	N	
M04D001408	Annual groundwater monitoring	INT-118	12/06	12/07	N	
M04D001501	Annual groundwater monitoring	ERT-028	12/07	12/09	N	
M04D001502	Annual groundwater monitoring	INT-137	12/07	12/09	N	
M04D001503	Annual groundwater monitoring	S1-108	12/07	12/09	N	
M04D001504	Annual groundwater monitoring	S1-102	12/07	12/09	N	
M04D001505	Annual groundwater monitoring	S1-137	12/07	12/09	N	
M04D001506	Annual groundwater monitoring	INT-551	12/07	12/09	N	

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TABLE 7-1

Samples Collected - December, 1994

<u>Sample No.</u>	<u>Description</u>	<u>Location</u>	<u>Date Samp'd</u>	<u>Lab Rec'd</u>	<u>Data Rec'd</u>	<u>Lab</u>
M04D001601	Annual groundwater monitoring	INT-105	12/08	12/09	N	
M04D001602	Annual groundwater monitoring	INT-135	12/08	12/09	N	
M04D001603	Annual groundwater monitoring	ERT-003	12/08	12/09	N	
M04D001604	Annual groundwater monitoring	INT-113	12/08	12/09	N	
M04D001605	Annual groundwater monitoring	INT-109	12/08	12/09	N	
M04D001606	Annual groundwater monitoring	S1-118	12/08	12/09	N	
M04D001702	Annual groundwater monitoring	INT-101	12/09	12/10	N	
M04D001703	Annual groundwater monitoring	ERT-002	12/09	12/10	N	
M04D001704	Annual groundwater monitoring	S1-126	12/09	12/10	N	
M04D001707	Annual groundwater monitoring	ERT-001	12/09	12/10	N	
M04D001708	Annual groundwater monitoring	RINSE BLK	12/09	12/10	N	
M04D001801	Annual groundwater monitoring	ERT-008	12/10	12/11	N	
M04D001802	Annual groundwater monitoring	ERT-010	12/10	12/11	N	
M04E000701	Annual groundwater monitoring	S1-103	12/14	12/15	N	
M04E000702	Annual groundwater monitoring	S1-104	12/14	12/15	N	
M04E000801	Annual groundwater monitoring	INT-102	12/15	12/17	N	
M04E000802	Annual groundwater monitoring	P-5	12/15	12/17	N	

Labs: A = American Analytical and Technical Services
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TABLE 7-1**Samples Collected - December, 1994**

<u>Sample No.</u>	<u>Description</u>	<u>Location</u>	<u>Date Samp'd</u>	<u>Lab Rec'd</u>	<u>Data Rec'd</u>	<u>Lab</u>
M04E000901	Annual groundwater monitoring	S1-105	12/16	12/17	N	
M04E001001	Annual groundwater monitoring	INT-059-P-2	12/19	12/20	N	
M04F000901	Annual groundwater monitoring	INT-104	12/16	12/17	Y	
M04F000902	Annual groundwater monitoring	INT-120	12/16	12/17	Y	
M04G000201	Annual groundwater monitoring	W-3	12/16	12/17	N	
M04H000201	Annual groundwater monitoring	W-7	12/21	12/22	N	
M06C002101	Monthly process monitoring	T-101 Eff	12/05	12/06	Y	
M06C002102	Monthly process monitoring	T-101 Inf-1	12/05	12/06	Y	
M06C002103	Monthly process monitoring	T-101 Inf-2	12/05	12/06	Y	
M06C002104	Monthly process monitoring	R1	12/05	12/06	Y	
M06C002105	Monthly process monitoring	R2	12/05	12/06	Y	
M06C002106	Monthly process monitoring	Cell D Liqr	12/05	12/06	Y	
M08B000701	Post flood potable water monitoring	Potable H2O	12/05	12/06	Y	
S04A001301	Annual groundwater monitoring(Field QC)	FB-1	12/09	12/10	Y	

Labs: A = American Analytical and Technical Services
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TABLE 7-1

Samples Collected - December, 1994

<u>Sample No.</u>	<u>Description</u>	<u>Location</u>	<u>Date Samp'd</u>	<u>Lab Rec'd</u>	<u>Data Rec'd</u>	<u>Lab</u>
S04A001401	Annual groundwater monitoring(Field QC)	FB-2	12/13	12/14	Y	
S04A001402	Annual groundwater monitoring(Field QC)	RB-2	12/13	12/14	Y	
S12B001001	Cell D management	Cell D Liq	12/06	12/08	Y	N

Labs: A = American Analytical and Technical Services
N = North Water District Lab

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TABLE 7-2

Scheduled Sampling Events
December, 1994

<u>Date Sampled</u>	<u>Set Number</u>	<u>Description</u>	<u>Schedule</u>
12/09/94	S04A0013	Annual GW monit(Field QC)	Special
12/13/94	S04A0014	Annual GW monit(Field QC)	Special
12/05/94	M04A0020	Annual GW monitoring	Annually
12/13/94	M04A0021	Annual GW monitoring	Annually
12/13/94	M04A0022	Annual GW monitoring	Annually
12/15/94	M04A0023	Annual GW monitoring	Annually
12/14/94	M04A0024	Annual GW monitoring	Annually
12/16/94	M04A0025	Annual GW monitoring	Annually
12/17/94	M04A0026	Annual GW monitoring	Annually
12/21/94	M04A0027	Annual GW monitoring	Annually
12/05/94	M04B0015	Annual GW monitoring	Annually
12/10/94	M04B0016	Annual GW monitoring	Annually
12/11/94	M04B0017	Annual GW monitoring	Annually
12/12/94	M04B0018	Annual GW monitoring	Annually
12/13/94	M04B0019	Annual GW monitoring	Annually
12/14/94	M04B0020	Annual GW monitoring	Annually
12/15/94	M04B0021	Annual GW monitoring	Annually
12/16/94	M04B0022	Annual GW monitoring	Annually
12/17/94	M04B0023	Annual GW monitoring	Annually
12/19/94	M04B0024	Annual GW monitoring	Annually
12/21/94	M04B0025	Annual GW monitoring	Annually
12/05/94	M04C0015	Annual GW monitoring	Annually
12/11/94	M04C0016	Annual GW monitoring	Annually
12/21/94	M04C0017	Annual GW monitoring	Annually
12/06/94	M04D0014	Annual GW monitoring	Annually
12/07/94	M04D0015	Annual GW monitoring	Annually
12/08/94	M04D0016	Annual GW monitoring	Annually
12/09/94	M04D0017	Annual GW monitoring	Annually
12/10/94	M04D0018	Annual GW monitoring	Annually
12/14/94	M04E0007	Annual GW monitoring	Annually
12/15/94	M04E0008	Annual GW monitoring	Annually
12/16/94	M04E0009	Annual GW monitoring	Annually
12/19/94	M04E0010	Annual GW monitoring	Annually
12/16/94	M04F0009	Annual GW monitoring	Annually
12/16/94	M04G0002	Annual GW monitoring	Annually
12/21/94	M04H0002	Annual GW monitoring	Annually
12/06/94	S12B0010	Cell D management	Special

MONTHLY PROGRESS REPORT
Quality Assurance/Quality Control**French Ltd. Project**
FLTG. Incorporated**TABLE 7-2****Scheduled Sampling Events**
December, 1994

<u>Date Sampled</u>	<u>Set Number</u>	<u>Description</u>	<u>Schedule</u>
12/05/94	M06C0021	Monthly process samples	Monthly
12/14/94	M01D0049	Personal air monitoring	Monthly
12/05/94	M08B0007	Potable H2O (Post flood)	Special
12/01/94	M03A0287	Treated water discharge	Bi-Weekly
12/05/94	M03A0288	Treated water discharge	Bi-Weekly
12/08/94	M03A0289	Treated water discharge	Bi-Weekly
12/12/94	M03A0290	Treated water discharge	Bi-Weekly
12/15/94	M03A0291	Treated water discharge	Bi-Weekly
12/19/94	M03A0292	Treated water discharge	Bi-Weekly
12/22/94	M03A0293	Treated water discharge	Bi-Weekly
12/26/94	M03A0294	Treated water discharge	Bi-Weekly
12/29/94	M03A0295	Treated water discharge	Bi-Weekly

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TABLE 7-3

Treated Water
QC Failure Summary

Sample Date	Test	QC Failure	Explanation	Corrective Action
11/14/94	BA	ICP Serial Dilution	ICP serial dilution analyses indicated interference.	None required - Matrix spike and LCS percent recoveries and duplicate RPDs were within control limits.
11/14/94	SV	MS Recov.	MS Recovery for 4-Nitrophenol was outside QC limits on both the MS and MSD.	None required - matrix effect indicated.
11/17/94	MN	ICP Serial Dilution	ICP serial dilution analyses indicated interference.	None required - Matrix spike and LCS percent recoveries and duplicate RPDs were within control limits.
11/17/94	PCB	SU Recov.	SU TCX recovery on column 2 was outside QC limits on sample -01 and the associated MS and MSD.	None required - matrix effect indicated.
11/21/94	SV	SU Recov.	SU recoveries for Terphenyl-d14 and 2,4,6-Tribromophenol were outside QC limits on sample -01MS.	None required - one QC failure on each of base/neutral and acid surrogates are allowed.
11/24/94	MN	ICP Serial Dilution	ICP serial dilution analyses indicated interference.	None required - Matrix spike and LCS percent recoveries and duplicate RPDs were within control limits.
11/24/94	PCB	SU Recov.	SU TCX recovery on column 2 was outside QC limits on sample -01.	None required - Column 1 surrogate recovery was within control limits.

7.2.3 Completeness Summaries

Tables 7-4 through 7-8 summarize completeness values for VOA, SVA, PCBs, Metals and miscellaneous parameters on treated water samples.

VOA (Table 7-4)

A total of 4 VOA sample sets have been validated with all categories meeting Project Completeness Goals.

SVA (Table 7-5)

A total of 4 SVA sample sets have been validated for this time period. All categories meet or exceed Project Completeness Goals with the exception of sample matrix effect. This is due to matrix effect failures in the early stages of the project and the MS/MSD accuracy failures that occurred during September and October 1994.

PCBs (Table 7-6)

A total of 4 PCB sample sets have been validated for this time period with all samples, meeting data quality objectives. All categories meet or exceed Project Completeness Goals.

Metals (Table 7-7)

A total of 4 sample sets have been validated for this time period. Project Completeness Goals are met or exceeded in all categories.

Miscellaneous Parameters (Table 7-8)

A total of 4 sample sets have been validated for this time period. Project completeness goals are met or exceeded in all categories.

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TABLE 7-4

Completeness Summary
M03A Treated Water
Volatile Organics Analyses

SAMPLE DATE SET NUMBER	M03A0282 thru M03A0285	Project to Date	PROJECT GOAL
Analysis Holding Time	100	100	100
12 Hour Window	100	100	100
SU Check	100	93	90
SU1 (d4-1,2-DCE)	100	98	90
SU2 (d8-Toluene)	100	97	90
SU3 (4-BFB)	100	99	90
IS Check	100	100	90
IS1 (BrClMethane)	100	100	90
IS2 (1,4-DiFlBenzene)	100	100	90
IS3(d5-ClBenzene)	100	100	90
Sample RT/RRT Check	100	*	
Vinyl Chloride			
Accuracy	100	99	90
Precision	100	99	90
Benzene			
Accuracy	100	99	90
Precision	100	100	90
No Group Matrix Effect	100	*	90
No Sample Matrix Effect	100	*	90
Tune Check	100	*	
Overall ICAL Check	100	*	
Overall CCAL Check	100	*	
Overall Lab Blank Check	100	*	

* - Level II QC checks were performed on 10% of samples prior to 6/14/93.
 PTD completeness values do not apply to these checks.

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TABLE 7-5

Completeness Summary
M03A Treated Water
Semivolatile Organic Analyses

SAMPLE DATE SET NUMBER	M03A0282 thru M03A0285	Project to Date	PROJECT GOAL
Extract Holding Time	100	100	100
Analysis Holding Time	100	100	100
12 Hour Window	100	100	100
SU Check	100	95	90
SU1 (2-FIPhenol)	100	95	90
SU2 (d5-Phenol)	100	93	90
SU3 (d5-Nitrobenz)	100	97	90
SU4(2-FIBiphenyl)	100	97	90
SU5(2,4,6-TBPh)	100	93	90
SU6(d14-Terphen)	100	95	90
IS Check	100	95	90
IS1 (d4-1,4-DiClBenz)	100	100	90
IS2 (d8-Naph)	100	100	90
IS3 (d10-Acenaph)	100	100	90
IS4 (d10-Phenanth)	100	100	90
IS5 (d12-Chrysene)	100	97	90
IS6 (d12-Perylene)	100	95	90
Sample RT/RRT	100	*	*
Napthalene			
Accuracy	100	95	90
Precision	100	99	90
No Group Matrix Effect	100	100	90
No Sample Matrix Effect	100	88	90
Tune Check	100	*	*
Overall ICAL Check	100	*	*
Overall CCAL Check	100	*	*
Overall Lab Blank Check	100	*	*

* - Level II QC checks were performed on 10% of samples prior to 6/14/93.
 PTD completeness values do not apply to these checks.

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TABLE 7-6

Completeness Summary
M03A Treated Water
PCB Analyses

SAMPLE DATE SET NUMBER	M03A0282 thru M03A0285	Project to Date	PROJECT GOAL
Extract Holding Time	100	100	100
Analysis Holding Time	100	100	100
12 Hour Window	100	100	100
SU Check - Column A	100	99	90
SU1 (DCBP)	100	82	NS
SU2 (TCMX)	100	97	NS
SU Check - Column B	100	98	90
SU1 (DCBP)	100	83	NS
SU2 (TCMX)	100	97	NS
SU Check - Column A or B	100	98	90
Aroclor 1242			
Accuracy	100	99	90
Precision	100	97	90
Overall ICAL Check	100	*	
Overall 1st CCAL Check	100	*	
Overall 2nd CCAL Check	100	*	
Overall Lab Blank Check	100	*	

* - Level II QC checks were performed on 10% of samples prior to 6/14/93.
 PTD completeness values do not apply to these checks.

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TABLE 7-7

Completeness Summary
M03A Treated Water
Metals Analyses

SAMPLE DATE SET NUMBER	M03A0282 thru M03A0285	PROJECT GOAL
ANALYTE: BARIUM		
MS Accuracy	100	95
DUP Precision/Difference	100	95
No Matrix Interference*	100	NA
Prep Blank Check	100	100
Lab Control Spike Check	100	100
ANALYTE: CADMIUM		
MS Accuracy	100	95
DUP Precision/Difference	100	95
No Matrix Interference*	100	NA
Prep Blank Check	100	100
Lab Control Spike Check	100	100
ANALYTE: CHROMIUM		
MS Accuracy	100	95
DUP Precision/Difference	100	95
No Matrix Interference*	100	NA
Prep Blank Check	100	100
Lab Control Spike Check	100	100
ANALYTE: COPPER		
MS Accuracy	100	95
DUP Precision/Difference	100	95
No Matrix Interference*	100	NA
Prep Blank Check	100	100
Lab Control Spike Check	100	100
ANALYTE: LEAD		
MS Accuracy	100	95
DUP Precision/Difference	100	95
No Matrix Interference*	100	NA
Prep Blank Check	100	100
Lab Control Spike Check	100	100

W - All samples waived due to low response

* Matrix interference is indicated by:

Furnace analyses - failure of analytical spike or low MSA coefficient

ICP analyses - failure of serial dilution

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FLTG. Incorporated**TABLE 7-7 (Continued)****Completeness Summary**
M03A Treated Water
Metals Analyses

SAMPLE DATE SET NUMBER	M03A0282 thru M03A0285	PROJECT GOAL
ANALYTE: MANGANESE		
MS Accuracy	100	95
DUP Precision/Difference	100	95
No Matrix Interference*	100	NA
Prep Blank Check	100	100
Lab Control Spike Check	100	100
ANALYTE: NICKEL		
MS Accuracy	100	95
DUP Precision/Difference	100	95
No Matrix Interference*	100	NA
Prep Blank Check	100	100
Lab Control Spike Check	100	100
ANALYTE: SILVER		
MS Accuracy	100	95
DUP Precision/Difference	100	95
No Matrix Interference*	100	NA
Prep Blank Check	100	100
Lab Control Spike Check	100	100
ANALYTE: ZINC		
MS Accuracy	100	95
DUP Precision/Difference	100	95
No Matrix Interference*	100	NA
Prep Blank Check	100	100
Lab Control Spike Check	100	100
ANALYTE: MERCURY		
MS Accuracy	100	95
DUP Precision/Difference	100	95
No Matrix Interference*	100	NA
Prep Blank Check	100	100
Lab Control Spike Check	100	100

W - All samples waived due to low response

* Matrix interference is indicated by:
Furnace analyses - failure of analytical spike or low MSA coefficient

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ICP analyses - failure of serial dilution

TABLE 7-7 (Continued)**Completeness Summary**
M03A Treated Water
Metals Analyses

SAMPLE DATE SET NUMBER	M03A0282 thru M03A0285	PROJECT GOAL
ANALYTE: ARSENIC		
MS Accuracy	100	95
DUP Precision/Difference	100	95
No Matrix Interference*	100	NA
Prep Blank Check	100	100
Lab Control Spike Check	100	100
ANALYTE: SELENIUM		
MS Accuracy	100	95
DUP Precision/Difference	100	95
No Matrix Interference*	100	NA
Prep Blank Check	100	100
Lab Control Spike Check	100	100

W - All samples waived due to low response

- * Matrix interference is indicated by:
 - Furnace analyses - failure of analytical spike or low MSA coefficient
 - ICP analyses - failure of serial dilution

MONTHLY PROGRESS REPORT
Quality Assurance/Quality Control**French Ltd. Project**
FLTG. Incorporated**TABLE 7-8****Completeness Summary**
M03A Treated Water
Miscellaneous Parameters Analyses

SAMPLE DATE SET NUMBER	M03A0282 thru M03A0285	Project to Date	PROJECT GOAL
PARAMETER: TOC			
Analysis Hold Time	100	100	100
MS Accuracy	100	100	NA
DUP Precision	100	100	NA
PARAMETER: OILS			
Analysis Hold Time	100	100	100
MS Accuracy	100	100	NA
DUP Precision	100	100	NA
PARAMETER: TSS			
Analysis Hold Time	100	100	100
MS Accuracy	NA	NA	NA
DUP Precision	100	100	NA

Attachment 7-A

Laboratory Audit Report
for
American Analytical and Technical Services
Baton Rouge, Louisiana

Audit Report

I. GENERAL INFORMATION

A. Laboratory:

American Analytical and Technical Services (AATS)
11950 Industriplex Blvd.
Baton Rouge, LA 70809
(504) 753-8650

B. Contact: Dr. K.M. Bagawandoss ("Doss")

C. Dates of audit: November 29 and 30, 1994

D. Auditor: Andrés A. Romeu, Ph.D. of QAL, Inc., Gainesville, Florida.

E. Purpose of audit: To assess the capability of AATS to perform GC/MS and metals analyses in support of the French Limited Task Group (FLTG) study.

II. AREAS INSPECTED

A. Sample receiving

B. Extractions

C. GC/MS (SVOA and VOA)

D. Digestions

E. Metals analysis (ICP and Hg only)

F. Glassware preparation

III. PERSONNEL INTERVIEWED

The following laboratory personnel were interviewed during the audit. Their training records were traced and found to be in good shape with the exceptions noted below.

A. Susan Stewart -- her training records were not complete. There was no verification about her training in her current duties, although during the audit she seemed very knowledgeable.

B. Dexter Hadnot

C. Judy Resnick

D. Virginia Jones

E. Louis Ogbonna -- his training records were complete. However, the information on the records may be construed to be misleading. For example, Louie is trained in extractions in support of GC/MS semivolatile analysis. The training records indicated that Louie was trained in SW-846 8270, which is a GC/MS method. A more appropriate entry would have been SW-846 3500-series methods, or the specific methods in which he was trained (e.g., SW-846 3520, Continuous liquid-liquid extraction).

F. Joyce Peters -- her training records were complete, but as with Louie Ogbonna, somewhat misleading. She is documented as being trained in SW-846 6010, ICP analysis, but her training is in the SW-846 3000-series methods, which are sample preparation for ICP analysis -- among others.

G. Charley Peyton -- his training records are incomplete, but he is also a fairly new employee. However, he is currently analyzing client samples albeit under close supervision.

H. Mark Maydwell

IV. LABORATORY INSPECTION

A. *Sample receiving.* The sample receiving area was operated within the guidelines established by the QAP. The area was found to be neat and well organized. Traceability of documentation is established. Sample control was good. The sample kit preparation area was also inspected. Traceability of reagents used for sample preservation is not maintained. The same acids as are used for digestions are used to prepare solutions that are used for sample preservation, but this was not documented anywhere. However, in the

context that FLTG samples were collected using pre-preserved bottles not shipped from this facility, no impact on FLTG samples is expected.

- B. *Extractions.* The area was found to be neat, well organized, and the documentation well maintained. The extractions are was operated within the guidelines of the QAP with the following exception.
- The QAP -- Section 1-5 -- indicates that solvent/reagent/standard lot numbers will be documented in sample preparation logs. While this was done for standards, solvent and reagent lot numbers are not documented.
- C. *GC/MS (SVOA and VOA).* The GC/MS semivolatile analysis area was operated within the guidelines of the QAP with the following exceptions.
- 1 • The QAP -- Section 1-5 and Appendix D-1,2,3 -- states that standards will be verified against independently prepared materials. This is not done in an easily verifiable manner. The analyst claimed that continuing calibration standards are prepared from purchased standards that are most likely different from those used to calibrate the instrument. While this may very well be true, it is not verifiable. The GC/MS section is assuming that the vendor supplied accurately prepared standards, which may or may not be the case. It is good laboratory practice to verify initial calibration curves with independently prepared standards -- e.g., purchased from a different vendor. This should be traceable via documentation.
 - 2 • The QAP (Section 1-5) states that standards will be labeled in a certain way. This was not done, but the labeling present was sufficient to trace the standards. Also, a holding time for the standards is not set or documented in the label. The analyst indicated that standards are normally consumed entirely or discarded within a week. This does not protect against accidental use of an expired standard.
 - 3 • In the GC/MS VOA section, it was noted that not all samples are checked for correct preservation. It was clear that all EPA samples are checked, but the frequency at which other samples are checked was not apparent. This has an impact on the holding time of the samples. If the pH was not verified, and the sample was not adequately preserved, the holding time may change from 14 to 7 days. If the pH is not checked, samples may inadvertently be analyzed out of holding time.
 - 4 • The QAP -- Appendix D-3 -- states that working standards will be prepared every week for organic analysis. In the GC/MS VOA section, working standards are prepared after six months.
 - 5 • The analytical report reviewed did not cite the analytical methods performed. For example, even though samples were analyzed by SW-846 8270, the reporting forms indicate that the method actually used was CLP 2/88. The case narrative inspected did not correct this by stating the method used for the samples. Therefore, there is no traceability to the actual methods used in the documents inspected.
- D. *Digestions.* The area was found to be neat, well organized, and the documentation well maintained. Analysts check samples out of locked coolers for processing. After that, no additional documentation of internal transfers of sample custody was apparent.
- 1 • Reagents are dated when received but not when opened, in violation of QAP Section 1-5. Also, reagents are not verified before the first use, as directed by the QAP -- Section 1-5. This is not a major problem for the user of data because method blanks would point out major problems with the materials used for sample preparation. It is also noted that QC samples such as method blanks receive no special treatment (e.g., ultrapure reagents, etc.).
 - 2 • There was no documentation for the preparation of the 5% permanganate and persulfate solutions. Because of this, these solutions cannot be traced back to the raw ma-

materials used to prepare them, to the person that prepared them, and to the date prepared. This is in contrast to the extractions area, in which even the preparation of the NaOH solution used to adjust the pH of samples is clearly documented in a book.

- 3 • The weighing range for the balance used to measure soils was found to be inadequate. Calibration weights ranging from 0.2 to 5 g are used on a daily basis, which brackets the mass of soils used for sample preparation. However, the mass of the sample container (beaker used for digestion) is not accounted for. The range used for balance calibration should bracket the range of the object being measured, not just a part of it.
- 4 • Reagents used are not documented in the preparation log, in violation of QAP 1-5.
- E. *Metals analysis (ICP and Hg only)*. The metals analysis area was operated within the guidelines of the QAP with the following exceptions.

- 1 • The mercury instrument maintenance log book was not kept up to date.
- 2 • Calibration standards used for mercury analysis were not traceable. The documentation used for standards preparation was adequate, but it could not be ascertained that the solution used for calibration corresponded to the standard prepared and documented.
- 3 • Documentation of analysis of standards for calibration was not traceable. The instrument log had standards designated S_0, S_1, \dots, S_5 for the calibration curve. The same designation was used for every day the instrument was calibrated. However, there was no indication in the log book which standard solution was used.
- 4 • The QAP states (Section 4-2) that standard additions will be used if interferences can not be resolved. The ICP operators use dilution to remove interferences, and standard additions is only used as the last option.
- 5 • The inorganic document control area is not kept locked. This is in contrast to the organic document control area, to which access is restricted.

F. *Glassware preparation*. All was in order.

G. *Data packages*. Two FLTG data packages were reviewed. The organics package was traceable back to the standard solution used for initial calibration. Sample preparation records were complete and traceable to the samples. One sample run was reviewed and appeared correct. The inorganics data package was not fully reviewed due to the auditor's inexperience with inorganic data. However, it should be noted that tracing inorganics packages is, not through any fault of the audited laboratory, extremely difficult.

V. AUDIT FINDINGS, OBSERVATIONS AND COMMENTS

A. *Findings*. The following items were findings made during the audit that should be responded to.

1. Training records should be complete and accurate. Two interviewees had incomplete training records, and two others had training records that could be misconstrued.
2. It is my understanding that the project requires that samples be analyzed by SW-846 methods, but reported using CLP formats. In reviewing a sample report, the method used to analyze the samples, if different from CLP, was not apparent. Reports should identify the methods used to analyze the samples, and this can be done in the case narrative. In the absence of a statement indicating that the samples were analyzed by a specific method, it must be assumed that the samples were analyzed not by SW-846 methods, but by CLP methods.
3. Calibration standards should be verified with independently prepared materials. It is easy -- and usually correct -- to assume that vendors prepare their standards correctly, but in the auditor's experience, this is not always true. Unless the vendor provides absolute verification that the standards are accurate, the lab should analyze standards

prepared by a different vendor. In all cases, the laboratory records should reflect this and provide an audit trail.

4. The mercury analysis instrument maintenance log book was not properly maintained.
5. There is no traceability to the standards used for mercury analysis.

B. *Observations and comments.* No response is required for the following items, and are provided strictly for the laboratory's use.

1. The QAP should reflect what is done in the laboratory. In many instances, this was not true. For example, the QAP indicates that control charts will be kept in the laboratory. This is not currently done, nor is there any apparent intention to do this. Several other incidences are noted throughout this document. Although it is recognized that the project QAP takes precedence over the laboratory QAP, it should be recognized that the laboratory QAP is not a "wish list" or "should be" document, but should rather reflect actual laboratory operations.
2. There is no traceability to the materials used in sample preparation in the digestions area.
3. Due to time limitations, the mercury analysis area could not be audited in greater detail. Since there were two findings in the short time, I would recommend that this area be given close attention by lab management.
4. There should be consistency in the requirements of the Document Control areas. Virginia Jones, of the organic area, was very aware that the document control area should be secure whenever she is not there. The same is apparently not true for the inorganic document control area.

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Quality Assurance/Quality Control

French Ltd. Project
FLTG. Incorporated

Attachment 7-B

FLTG Inc. Laboratory Audit Responses
for November 29 & 30, 1994 Audit
at
American Analytical and Technical Services
Baton Rouge, Louisiana

French, Ltd. Project

FLTG, Incorporated

15010 FM 2100, SUITE 200, CROSBY, TEXAS 77532
R. L. SLOAN, PROJECT COORDINATOR

PHONE 713-328-3541 FAX 713-328-4687

December 19, 1994

Ms. Judith Black
EPA Superfund Coordinator - French
Superfund Compliance Section (6H-ET)
USEPA
1445 Ross Avenue
Dallas, Texas 75202-2733

Re: EPA/CH2M Hill Audit of AATS

Dear Judith:

We appreciate the thorough and effective audit of AATS by CH2M Hill. Our responses to the audit are as follows (the audit report is attached for reference):

Item III.A.

Issue: Training records not complete.

Response: Training records will be updated and audited.

Item III.E.

Issue: Information on the training records could be misleading.

Response: The training records will be clarified to eliminate confusion.

Item III.F.

Issue: Information on the training records could be misleading.

Response: Same as for Item III.E.

Item III.G.

Issue: Training records incomplete for new employee.

Response: Close supervision until new employee is adequately trained.

Item IV.B.

Issue: Solvent and reagent lot numbers were not documented.

Response: The appropriate lot numbers will be documented in sample preparation logs.

Item IV.C.1.

Issue: Standards are not verified against independently prepared materials in a readily auditable manner.

Response: The verification procedures for standards will be

Judith Black
December 19, 1994

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reviewed and clarified to insure that standards are independently verified.

Item IV.C.2.

Issue: The standards were not labeled as per the QAP.

Response: The standards will be labeled as per the QAP, including a holding time.

Item IV.C.3.

Issue: Samples not checked for correct preservation.

Response: All samples will be checked for preservation and the results documented.

Item IV.C.4.

Issue: Holding time for organic analysis working standards.

Response: Working standards will be prepared and maintained as per the QAP.

Item IV.C.5.

Issue: Analytical report did not cite the analytical method used.

Response: Analytical reports will state the analytical method used.

Item IV.D.1.

Issue: Reagents are not dated when opened.

Response: Reagents will be dated as per the QAP.

Item IV.D.2.

Issue: No documentation for the preparation of specific solutions.

Response: The preparation of all solutions will be documented as per the QAP.

Item IV.D.3.

Issue: The operating range of the balance used to weigh soil samples is inadequate.

Response: The range, used for balance calibration, will cover the entire range of the object being weighed.

Item IV.D.4.

Issue: Reagents used are not documented.

Response: Reagent use will be documented in the sample preparation log.

Item IV.E.1.

Issue: The mercury instrument log book was not up-to-date.

Response: All the instrument log books will be updated as per the QAP.

Judith Black
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Item IV.E.2.

Issue: Mercury calibration standards were not traceable.

Response: The preparation of standards will be documented to insure an auditable record.

Item IV.E.3.

Issue: Analysis of calibration standards was not traceable.

Response: The details of the calibration standards analyses will be logged.

Item IV.E.4.

Issue: Operators use dilution to remove interferences.

Response: Standard additions will be used to resolve interferences.

Item IV.E.5.

Issue: Inorganic document control area is not locked.

Response: The inorganic document control area will be locked.

FLTG plans to re-audit AATS during the first week of February, 1995, to review progress on the issues and responses, and a status report will be issued to the EPA.

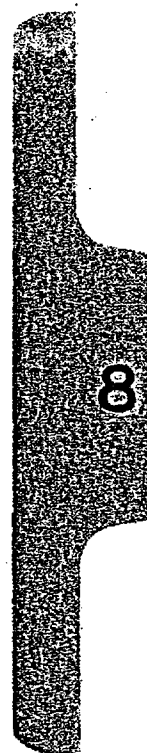
Please contact me if you have any questions or comments.

Sincerely,

R.L. Sloan

RS/ks

cc: James Sher
Amy Lange
Ron Jansen
AATS



MONTHLY PROGRESS REPORT
Site Maintenance

French Ltd. Project
FLTG, Incorporated

8.0 SITE MAINTENANCE

8.1 Summary of Activities

8.1.1 General Housekeeping

The site safety and housekeeping inspections and responses kept grounds safe and attractive for employees and visitors.

8.1.2 Purchasing

All purchases were covered by written requisitions and purchase orders. Purchase of chemicals is now reduced to groundwater treatment and insitu remediation.

A competitive bid for \$7,985.00 was awarded to Mobely Industrial Painters for preparation and painting of T-101.

8.1.3 Equipment Maintenance

Routine preventive and production maintenance was performed on all equipment.

8.2 Visitors

The following visitors were recorded at the site during December:

<u>December 1:</u>	D. Satchwell, TPS R. Wade, TPS
<u>December 5:</u>	(b) (6) self Matt Wilson, CH2M Hill
<u>December 9:</u>	Gene Murphy, local resident

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December 12: Billy D. Bright, Dept. of Defense
Stephanie Hrabar, GEMS²
Alf Klaveness, KRC

December 13: R.D. Norris, Eckenfelder
(b) (6) local resident

December 16: Rick Wade, TPS

December 19: Greg Crouch, CESI
Graig Farringer, TPS

8.3 Emergency Equipment

8.3.1 Flood Gate Test

The flood gate was exercised on December 17, 1994, with one small leak detected at the bottom seal.

8.3.2 P-8 Auxiliary Pump

P-8 Auxiliary Pump was exercised on December 17, 1994.

8.3.3 Fire Extinguishers

All fire extinguishers were inspected and certified.

8.4 Security

Smith Security provides 24-hour security at the FLTG site, including the south side of Gulf Pump Road; all site areas are checked hourly. Incidents reported by Security in December:

1. A vehicle ran through the fence at FLTG #3 potable well site destroying 130' of fence.

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Site Maintenance

French Ltd. Project
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8.5 Operator Training

All training is documented and records are maintained on site. Semi-annual physicals were conducted in December.

8.6 Data Management

Data base is fully operational. Data is entered on a daily basis.

8.7 Personnel Monitoring

Results of personnel monitoring conducted during December are included in Table 8-1.

8.8 OVM System

The meteorological station was destroyed during the flood event. A new system is being competitively bid at this time.

Work areas are being monitored daily with Organic Vapor Monitor 580A.

8.9 Repository

Records from the December review are listed in Attachment 8A.

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Site Maintenance

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TABLE 8-1

On-Site Employee Contaminant Limits
(From OSHA 29 CFR 1910 Subpart Z)

Compound	PEL 8 hour PPM	MO1D004901 12-Dec-94 Well Sampler		MO1D004902 12-Dec-94 GWT Operator		MO1D004903 12-Dec-94 Well Maint.	
		% of PEL	PPM	% of PEL	PPM	% of PEL	PPM
Chloromethane	50	0.000	0.000	0.000	0.000	0.005	0.003
Bromomethane	5	0.000	0.000	0.000	0.000	0.000	0.000
Vinyl chloride	1	0.000	0.000	0.000	0.000	0.000	0.000
Chloroethane	1000	0.000	0.000	0.000	0.000	0.000	0.000
Dichloromethane	50	0.011	0.005	0.017	0.009	0.007	0.003
Acetone	750	0.002	0.012	0.002	0.012	0.001	0.009
Carbon disulfide	10	0.012	0.001	0.027	0.003	0.007	0.001
1,1-Dichloroethene	5	0.000	0.000	0.000	0.000	0.024	0.001
1,1-Dichloroethane	100	0.000	0.000	0.000	0.000	0.000	0.000
trans-1,2-Dichloroethane	200	0.004	0.008	0.007	0.015	0.003	0.006
Chloroform	10	0.007	0.001	0.018	0.002	0.005	0.000
1,2-Dichloroethane	10	0.000	0.000	0.004	0.000	0.000	0.000
2-Butanone	200	0.002	0.004	0.001	0.002	0.001	0.001
1,1,1-Trichloroethane	350	0.000	0.000	0.000	0.000	0.000	0.000
Carbon Tetrachloride	5	0.004	0.000	0.013	0.001	0.000	0.000
Vinyl acetate	10	0.000	0.000	0.000	0.000	0.000	0.000
Bromodichloromethane			0.000		0.000		0.000
1,2-Dichloropropane	75	0.000	0.000	0.000	0.000	0.000	0.000
cis-1,3-Dichloropropene	1	0.000	0.000	0.000	0.000	0.000	0.000
Trichloroethene	50	0.000	0.000	0.001	0.000	0.000	0.000
Dibromochloromethane			0.000		0.000		0.000
1,1,2-Trichloroethane	10	0.000	0.000	0.000	0.000	0.000	0.000
Benzene	1	0.122	0.001	0.123	0.001	0.081	0.001
trans-1,3-Dichloropropene	1	0.000	0.000	0.000	0.000	0.000	0.000
2-Chloroethylvinyl ether			0.000		0.000		0.000
Bromoform	0.5	0.000	0.000	0.000	0.000	0.000	0.000
4-Methyl-2-pentanone	50	0.003	0.001	0.001	0.000	0.000	0.000
2-Hexanone	5	0.000	0.000	0.000	0.000	0.000	0.000
Tetrachloroethene	50	0.000	0.000	0.004	0.002	0.000	0.000
1,1,2,2-Tetrachloroethane	1	0.000	0.000	0.000	0.000	0.000	0.000
Toluene	100	0.004	0.004	0.005	0.005	0.003	0.003
Chlorobenzene	10	0.000	0.000	0.002	0.000	0.000	0.000
Ethylbenzene	100	0.000	0.000	0.001	0.001	0.000	0.000
Styrene	50	0.000	0.000	0.000	0.000	0.000	0.000
Xylene (total)	100	0.000	0.000	0.000	0.000	0.000	0.000
Hexane			0.003		0.003		0.002

MONTHLY PROGRESS REPORT
Site Maintenance

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ATTACHMENT 8A

Repository Status Report: December, 1994

REPOSITORY STATUS REPORT: December, 1994**At the Rice University Library...**

1. Remedial Investigation Report April, 1985
2. Remedial Investigation Report Appendices, Volume II, April, 1985
3. Remedial Investigation Report June, 1986 (Updated from April, 1985)
4. Remedial Investigation Report Appendices, Volume I, February, 1986
(Revised June, 86)
5. Remedial Investigation Report Appendices, Volume II, February, 1986
(Revised June, 1986)
6. Remedial Investigation Report Appendices, Volume III, February, 1986
7. 1986 Field Investigation and Supplemental Remedial Investigation Report Volume I, December, 1986
8. 1986 Field Investigation and Supplemental Remedial Investigation Report French Limited Site Volume II, Appendices December, 1986
9. 1986 Field Investigation Hydrology Report, December 19, 1986
10. Endangerment Assessment Report February, 1987
11. Endangerment Assessment Report April 1987 (Updated from February, 1987)
12. Feasibility Study Report, March 1987
13. In Situ Biodegradation Demonstration Report Volume I Executive Summary, October 30, 1987 Revised 11-11-87
14. In Situ Biodegradation Demonstration Supplemental Report French Limited Site Volume I, November 30, 1987
15. In Situ Biodegradation Demonstration Report Volume II, October 30, 1987
(Revised February 1, 1988 at Site only)
16. In Situ Biodegradation Demonstration Supplemental Report French Limited Site Volume II, November 30, 1987 + Appendices

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17. In Situ Biodegradation Demonstration Report Volume III Appendices, October 30, 1987
 18. In Situ Biodegradation Demonstration Report Volume III, Appendices, Supplemental Report, November 30, 1987
 19. In Situ Biodegradation Demonstration Report French Limited Site, Volume IV October 30, 1987 + Appendices
 20. In Situ Biodegradation Demonstration Supplemental Report French Limited Site, Volume IV November 30, 1987 + Appendices
 21. In Situ Biodegradation Demonstration Report French Limited Site Volume V, October 30, 1987
 22. In Situ Biodegradation Demonstration Report French Limited Site Volume V Appendices, November 30, 1987 - Supplemental Report
 23. In Situ Biodegradation Demonstration Report French Limited Site Volume VI Appendices, October 30, 1987
 24. In Situ Biodegradation Demonstration Report French Limited Site Volume VII Appendices, October 30, 1987
 25. In Situ Biodegradation Demonstration Report French Limited Site Volume VIII Appendices, October 30, 1987
 26. In Situ Biodegradation Demonstration Report French Limited Site Volume IX Appendices, October 30, 1987
 27. In Situ Biodegradation Demonstration Report French Limited Site Volume X Appendices, October 30, 1987
 28. In Situ Biodegradation Demonstration Report French Limited Site Volume XI Appendices, October 30, 1987
 29. In Situ Biodegradation Demonstration Report French Limited Site Volume XII Appendices, October 30, 1987
 30. In Situ Biodegradation Demonstration Report French Limited Site Volume XIII Appendices, October 30, 1987
This volume is missing.

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31. In Situ Biodegradation Demonstration Report French Limited Site Volume XIV Appendices, October 30, 1987
 32. In Situ Biodegradation Demonstration Report French Limited Site Volume XV Appendices, October 30, 1987
 33. In Situ Biodegradation Demonstration Report French Limited Site Volume XVI Appendices, October 30, 1987
 34. In Situ Biodegradation Demonstration Report French Limited Site Volume XVII Appendices, October 30, 1987
 35. In Situ Biodegradation Demonstration Report French Limited Site Volume XVIII Appendices, October 30, 1987
 36. Proposed In Situ Biodegradation Demonstration French Limited Site Phase III, April, 1987
 37. In Situ Bioremediation Demonstration French Limited April, 1987 Monthly Report, Equipment Evaluation Phase IV
 38. In Situ Bioremediation Demonstration French Limited May, 1987 Monthly Report, Equipment Evaluation Phase IV
 39. In Situ Bioremediation Demonstration French Limited June, 1987 Monthly Report, Equipment Evaluation Phase IV
 40. In Situ Bioremediation Demonstration French Limited July, 1987 Monthly Report, Equipment Evaluation Phase IV
 41. In Situ Bioremediation Demonstration French Limited August, 1987 Monthly Report, Equipment Evaluation Phase IV
 42. In Situ Bioremediation Demonstration French Limited November, 1987 Monthly Report, Equipment Evaluation Phase IV
 43. In Situ Bioremediation Demonstration French Limited December, 1987 Monthly Report, Equipment Evaluation Phase IV
 44. In Situ Bioremediation Demonstration French Limited January, 1988 Monthly Report, Equipment Evaluation Phase IV
 45. In Situ Bioremediation Demonstration French Limited February, 1988 Monthly Report, Equipment Evaluation Phase IV

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46. In Situ Bioremediation Demonstration French Limited March, 1988 Monthly Report, Equipment Evaluation Phase IV
 47. In Situ Bioremediation Demonstration French Limited April, 1988 Monthly Report, Equipment Evaluation Phase IV
 48. In Situ Biodegradation Demonstration French Limited May/June 1988 Monthly Report, Equipment Evaluation Phase IV
 49. In Situ Bioremediation Demonstration French Limited July, 1988 Monthly Report, Equipment Evaluation Phase IV
 50. In Situ Bioremediation Demonstration French Limited August, 1988 Monthly Report, Equipment Evaluation Phase IV
 51. In Situ Bioremediation Demonstration French Limited September, 1988 Monthly Report, Equipment Evaluation Phase IV
 52. Supplemental Biodegradation Equipment Evaluation French Limited Site - Phase IV, September 26, 1988
 53. In Situ Biodegradation Demonstration Phase III Quality Assurance Project Plan for French Limited Site, March, 1987
 54. Addendum to Quality Assurance Project Plan for the French Limited Site In Situ Biodegradation Demonstration Phase III, February 16, 1990
 55. Site Safety and Health Plan French Limited Site - Phase III, April 1987 (Revision 2)
 56. Remedial Action Plan Volume I - April, 1990
 57. Remedial Action Plan Volume I - September, 1990 (Updated from April, 1990)
 58. Remedial Action Plan Volume II Quality Assurance April, 1990
 59. Remedial Action Plan Volume II Quality Assurance September, 1990 (Updated from April 1990) Revised June 3, 1991
 60. Remedial Action Plan Volume II Quality Assurance June, 1990
Appendix A - Quality Assurance Sampling Procedures and
Appendix B - Analytical Methods - B.1 - B.53, September 22, 1989
Revised September 28, 1990

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61. Remedial Action Plan Volume III - Health and Safety, July 20, 1990
 62. Remedial Action Plan Volume IV - Spill and Volatile Organic Release Contingency Plan (April 6, 1990)
 63. Remedial Action Plan Volume V - Shallow Aquifer and Subsoil Remediation Process Design, May, 1990
Page v.i.3 Missing
 64. Remedial Action Plan Volume V - Shallow Aquifer and Subsoil Remediation Process Design, July 20, 1990, (Updated from May, 1990)
 65. 1988 Equipment Evaluation Phase IV Report French Limited Site: Volume I, February 1, 1990
 66. 1988 Equipment Evaluation Phase IV Report French Limited Site: Volume II, February 1, 1990
 67. 1988 Slough Investigation Report French Limited Site, October 1988
 68. Ambient Air Impact Risk Assessment Report, May 5, 1989
 69. Workplan for the Shallow Aquifer Pumping Tests for the French Limited Site, July 22, 1988
Page 80 Missing
 70. French Limited Site Hurricane Gilbert Preparation Report, October, 1988
 71. Potable Water Well Installation Report French Limited Site, December 7, 1988
 72. Bioresidue Fixation Alternatives Evaluation Report French Limited Site March 20, 1989
 73. Hydrogeologic Characterization Report, March 1989
 74. Hydrogeologic Characterization Report - Appendices, March 1989
 75. San Jacinto River May 19, 1989 Flood Event Report, June 1989
 76. Post San Jacinto River May 1989 Flood Event Soils and Water Analysis Program - Volume I, August 16, 1989
 77. Post San Jacinto River 1989 Flood Event Soil and Water Analysis Program Volume II Appendix A

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78. Post San Jacinto River 1989 Flood Event Soil and Water Analysis Program
Volume III Appendix A, August 16, 1989
 79. Riverdale Lake Area Remediation Program August 15, 1989
 80. Flood and Migration Control Wall Design Report, August 16, 1989
 81. Flood and Migration Control Wall Design Report Appendix C Access Way Design,
September, 1989
 82. North Pit Remediation Report French Limited Site, November 6, 1989
 83. Installation Report for Flood and Migration Control Wall, January 8, 1990
 84. Installation Report for Flood and Migration Control Wall
Appendix A - ENSR Site Logs
 85. Installation Report for Flood and Migration Control Wall
Appendix B - Inspection Reports
 86. Installation Report for Flood and Migration Control Wall Appendix C - Pile Driving
Inspection Report January 8, 1990
 87. Flood Wall Gate Test Report French Limited Site, February 1990
 88. French Limited Remediation Design Report - Executive Summary
Bioremediation/Shallow Aquifer, July, 1991
 89. Shallow Aquifer and Subsoil Remediation Facilities Design Report Volume I of III -
Summary Report and Appendices A-H, July 1991
 90. Shallow Aquifer and Subsoil Remediation Facilities Design Report Volume II of III
- Appendices I-M, June 1991
 91. Shallow Aquifer and Subsoil Remediation Facilities Design Report Volume III of III
- Appendices N-P, June 1991
 92. Bioremediation Facilities Design Report Volume II of IV Appendices, Reports and
Calculations (March 20, 1991)
 93. Bioremediation Facilities Design Report Volume III of IV
Appendix E - Design Specifications (March 20, 1991)

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94. Bioremediation Facilities Design Report Volume IV of IV - Air Monitoring, March 20, 1991
 95. Public Health Assessment for French Limited March 30, 1993 from U.S. Department of Health and Human Services
 96. CH2M Hill, Cell E Verification Remediation Report, May 1993, Volume 1, Report, Appendices A-E
 97. CH2M Hill, Cell E Verification Remediation Report, May 1993, Volume 2, Appendix F
 98. CH2M Hill, Cell E Verification Remediation Report, May 1993, Volume 3, Appendix F continued
 99. CH2M Hill, Cell E Verification Remediation Report, May 1993, Volume 4, Appendix G
 100. CH2M Hill, Cell E Verification Remediation Report, May 1993, Volume 5, Appendix H
 101. CH2M Hill, Cell E Verification Remediation Report, May 1993, Volume 6, Appendix H continued
 102. Record of Public Meeting Regarding Remedial Investigation and Feasibility Study (5-21-87)
 103. Summary of Remedial Alternative Selection 1988
 104. Declaration for the Record of Decision 1988
 105. Record of Public Meeting Regarding Remedial Investigation and Feasibility Study (2-11-88) (Updated from June 21, 1987)
 106. Consent Decree between the Federal Government and the FLTG
 107. French Limited Superfund Site Community Relations Revised Plan August, 1989 - Jacob's Engineering
 108. Results of the French Limited Task Group Survey (Goldman and Company) April, 1987
 109. Goldman Public Relations Clipping Report

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- 110. BioGEE International, Inc., Project Report Biotreatability Study Using Isolated Indigenous Organisms, April, 1994
 - 111. Field Evaluation of Biodegradation at the French Limited Site (Phase II) Volume I
 - 112. Laboratory Evaluation of Biodegradation at the French Limited Site
 - 113. French Limited Site Focused Feasibility Study (May 1987)
 - 114. Annual Groundwater Monitoring Report, December 1993, Report and Appendices A-B
 - 115. Annual Groundwater Monitoring Report, December 1993, Appendices C-H
 - 116. DNAPL Study Remedial Alternative Selection and Feasibility Study Report, November 1994
 - 117. Monthly Progress Report, January 1992
 - 118. Monthly Progress Report, January, 1992 Appendices A-C
 - 119. Monthly Progress Report, January, 1992 Appendices E, F
 - 120. Monthly Progress Report, January, 1992 Appendices G
 - 121. Monthly Progress Report, February, 1992
 - 122. Monthly Progress Report, February, 1992 Appendices A-B
 - 123. Monthly Progress Report, February, 1992 Appendices C 1, C 2
 - 124. Monthly Progress Report, February, 1992 Appendices D-E
 - 125. Monthly Progress Report, March, 1992
 - 126. Monthly Progress Report, March, 1992, Appendix A
 - 127. Monthly Progress Report, April, 1992
 - 128. Monthly Progress Report, April, 1992, Appendices A-B
 - 129. Monthly Progress Report, May, 1992

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- 130. Monthly Progress Report, May, 1992, Appendices A-B
 - 131. Monthly Progress Report, June, 1992
 - 132. Monthly Progress Report, June, 1992, Appendices A-B
 - 133. Monthly Progress Report, July 1992
 - 134. Monthly Progress Report, July 1992, Appendices A-B
 - 135. Monthly Progress Report, July 1992, Appendices B1-B22 Vol. 1 of 3
 - 136. Monthly Progress Report, July 1992, Appendices B1-B22 Vol. 2 of 3
 - 137. Monthly Progress Report, July 1992, Appendices B1-B22 Vol. 3 of 3
 - 138. Monthly Progress Report, August, 1992
 - 139. Monthly Progress Report, August, 1992, Appendices A-B
 - 140. Monthly Progress Report, September, 1992
 - 141. Monthly Progress Report, September, 1992, Appendices A-B
 - 142. Monthly Progress Report, October, 1992
 - 143. Monthly Progress Report, October, 1992, Appendices A-B
 - 144. Monthly Progress Report, November, 1992
 - 145. Monthly Progress Report, November, 1992 Appendices A-B
 - 146. Monthly Progress Report, December, 1992
 - 147. Monthly Progress Report, December, 1992 Appendices A, B
 - 148. Monthly Progress Report, January, 1993
 - 149. Monthly Progress Report, February, 1993
 - 150. Monthly Progress Report, March, 1993
 - 151. Monthly Progress Report, April, 1993

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- 152. Monthly Progress Report, May, 1993
- 153. Monthly Progress Report, June, 1993
- 154. Monthly Progress Report, July, 1993
- 155. Monthly Progress Report, August, 1993
- 156. Monthly Progress Report, September, 1993
- 157. Monthly Progress Report, October, 1993
- 158. Monthly Progress Report, November, 1993
- 159. Monthly Progress Report, December, 1993
- 160. Monthly Progress Report, January, 1994
- 161. Monthly Progress Report, February, 1994
- 162. Monthly Progress Report, March, 1994
- 163. Monthly Progress Report, April, 1994
- 164. Monthly Progress Report, May, 1994
- 165. Monthly Progress Report, June, 1994
- 166. Monthly Progress Report, July, 1994
- 167. Monthly Progress Report, August, 1994
- 168. Monthly Progress Report, September, 1994
- 169. Monthly Progress Report, October, 1994
- 170. Monthly Progress Report, November, 1994

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1. Remedial Investigation Report - June, 1986
2. Remedial Investigation Appendices Volume I June, 1986 Revised from Feb. 1986
3. Remedial Investigation Appendices Volume I I June, 1986 Revised from Feb. 1986
4. Remedial Investigation Appendices Volume III February, 1986
Pages 1 and 2 of 10 Res. Engr Tab Missing
Analytical Report Worksheet 7-8-9-10 Missing
Pages 1 and 2 of 6 Missing
Tab 9 H 1-8 Missing, H 11-19 Missing, Page 1 of 10 Missing
Page 3 Worksheet Missing
Tab 10 H 1-3 Missing, Page 3-6 of 6 Missing, Page 1-6 Missing
Tab 12 Page 2-10 of 10 Missing
5. 1986 Field Investigation and Supplemental Remedial Investigation Report
Volume I, December, 1986
6. 1986 Field Investigation and Supplemental Remedial Investigation Report
Volume II, Appendices, December 1986
7. 1986 Field Investigation Hydrology Report, December 19, 1986
8. Feasibility Study Report, March 1987
9. Feasibility Study Report, March 1987
10. French Limited Site Focused Feasibility Study, May 1987
11. Endangerment Assessment Report February 1987
12. Endangerment Assessment Report April 1987
13. Endangerment Assessment Report April 1987
14. In Situ Biodegradation Demonstration Report Volume I Executive Summary
October, 1987 (Revised 12-15-87)
15. In Situ Biodegradation Demonstration Report Volume II October 30, 1987

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16. In Situ Biodegradation Demonstration Supplemental Report French Limited Site Volume I, November 30, 1987
Missing Supplements to 5-6 and 7 to 10
 17. In Situ Biodegradation Demonstration Supplemental Report French Limited Site Volume II, November 30, 1987 + Appendices
 18. In Situ Biodegradation Demonstration Supplemental Report French Limited Site Volume III, November 30, 1987 + Appendices
 19. In Situ Biodegradation Demonstration Supplemental Report French Limited Site Volume IV, November 30, 1987 -Appendices
 20. In Situ Biodegradation Demonstration Supplemental Report French Limited Site Volume V - Appendices, November 30, 1987
 21. Results of the French Limited Task Group Survey (Goldman and Company) April 1987
 22. Goldman Public Relations Clipping Report
 23. Consent Decree between the Federal Government and the FLTG
 24. Consent Decree between the Federal Government and the FLTG
 25. Laboratory Evaluation of Biodegradation at the French Limited Site, December 1986.
 26. Field Evaluation of Biodegradation at the French Limited Site (Phase II) Volume I, March, 1987
 27. Bioremediation Facilities Design Report Volume II of IV Appendices, Reports and Calculations March 20, 1991
 28. Bioremediation Facilities Design Report Volume III of IV Appendix E - Design Specifications March 20, 1991
 29. Bioremediation Facilities Design Report Volume IV of IV Air Monitoring, March 20, 1991
 30. Remedial Action Plan Volume I, September 28, 1990
 31. Remedial Action Plan Volume II - Quality Assurance, Revised June 3, 1991

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32. Remedial Action Plan Volume II - Appendix A - Quality Assurance Sampling Procedures and Appendix B - Analytical Methods - B.1 - B.53, September 28, 1990
 33. Remedial Action Plan Volume III - Health and Safety, July 20, 1990
 34. Remedial Action Plan Volume V - Shallow Aquifer and Subsoil Remediation Process Design, July 20, 1990
 35. Remedial Action Plan Volume V - Shallow Aquifer and Subsoil Remediation Process Design, July 20, 1990
 36. Hydrogeologic Characterization Report, March 1989
 37. Hydrogeologic Characterization Report Appendices, March 1989
 38. Supplemental Biodegradation Equipment Evaluation French Limited Site - Phase IV, September 26, 1988
 39. 1988 Equipment Evaluation Phase IV Report French Limited Site: Volume I, February 1, 1990
 40. 1988 Equipment Evaluation Phase IV Report French Limited Site: Volume II, February 1, 1990
 41. Site Safety and Health Plan French Limited Site - Phase III, April 1987 (Revision 2)
 42. San Jacinto River May 19, 1989 Flood Event Report, June 1989
 43. Post San Jacinto River May 1989 Flood Event Soils and Water Analysis Program Volume I, August 16, 1989
 44. Post San Jacinto River 1989 Flood Event Soil and Water Analysis Program Volume II, Appendix A
 45. Post San Jacinto River 1989 Flood Event Soil and Water Analysis Program Volume III, Appendix A, August 16, 1989
 46. 1988 Slough Investigation Report French Limited Site, October 1988
 47. Flood and Migration Control Wall Design Report, August 16, 1989

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48. Flood and Migration Control Wall Design Report (Flood is spelled incorrectly on Volume Cover) + Appendix C - Access way Design September 1989
 49. Installation Report for Flood and Migration Control Wall January 8, 1990
 50. Installation Report for Flood and Migration Control Wall
Appendix A - ENSR Site Logs
 51. Installation Report for Flood and Migration Control Wall
Appendix B - Inspection Reports
 52. Installation Report for Flood and Migration Control Wall
Appendix C - Pile Driving Inspection Report January 8, 1990
 53. Flood Wall Gate Test Report French Limited Site, February 1990
 54. North Pit Remediation Report French Limited Site, November 6, 1989
 55. Workplan for the Shallow Aquifer Pumping Tests for the French Limited Site, July 22, 1988
(Additional Title - Pumping Test Program for Shallow Alluvial Aquifer Zone)
 56. French Limited Site Hurricane Gilbert Preparation Report October, 1988
 57. Riverdale Lake Area Remediation Program, August 15, 1989
 58. Addendum to Quality Assurance Project Plan for the French Limited Site In Situ Biodegradation Demonstration Phase III, February 16, 1990
 59. Potable Water Well Installation Report French Limited Site, December 7, 1988
 60. Bioresidue Fixation Alternatives Evaluation Report French Limited Site
March 20, 1989
 61. Ambient Air Impact Risk Assessment Report, May 5, 1989
 62. Shallow Aquifer and Subsoil Remediation Facilities Design Report Volume I of III -
Summary Report and Appendices A-H, July 1991
 63. Shallow Aquifer and Subsoil Remediation Facilities Design Report Volume II of III -
Appendices I-M, June 1991
 64. Shallow Aquifer and Subsoil Remediation Facilities Design Report Volume III of III -
Appendices N-P, June 1991

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65. French Ltd. Remediation Design Report Executive Summary
Bioremediation Shallow Aquifer July 1991
 66. BioGEE International, Inc., Project Report Biotreatability Study Using Isolated
Indigenous Organisms, April 15, 1994
 67. Black EPA Binder
 68. CH2M Hill, Cell E Verification Remediation Report, May 1993, Volume 1, Report,
Appendices A-E
 69. CH2M Hill, Cell E Verification Remediation Report, May 1993, Volume 2,
Appendix F
 70. CH2M Hill, Cell E Verification Remediation Report, May 1993, Volume 3
Appendix F continued
 71. CH2M Hill, Cell E Verification Remediation Report, May 1993, Volume 4,
Appendix G
 72. CH2M Hill, Cell E Verification Remediation Report, May 1993, Volume 5,
Appendix H
 73. CH2M Hill, Cell E Verification Remediation Report, May 1993, Volume 6,
Appendix H continued
 74. Equipment Evaluation Phase IV Report November, 1987 Monthly Report
 75. Equipment Evaluation Phase IV Report December, 1987 Monthly Report
 76. Microfiche Field Reports 1988 -small box
 77. Annual Groundwater Monitoring Report, December 1993, Report and
Appendices A-B
 78. Annual Groundwater Monitoring Report, December 1993,
Appendices C-H
 79. DNAPL Study Remedial Alternative Selection and Feasibility Study Report,
November 1994
 80. Monthly Progress Report, January, 1992
 81. Monthly Progress Report, January, 1992, Appendices A-C

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- 82. Monthly Progress Report, January, 1992, Appendices E-F
- 83. Monthly Progress Report, January, 1992, Appendix G
- 84. Monthly Progress Report, February, 1992
- 85. Monthly Progress Report, February, 1992, Appendices A-B
- 86. Monthly Progress Report, February, 1992, Appendices C-1
- 87. Monthly Progress Report, February, 1992, Appendices C-2
- 88. Monthly Progress Report, February, 1992, Appendices D-E
- 89. Monthly Progress Report, March, 1992
- 90. Monthly Progress Report, March, 1992, Appendix A
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- 92. Monthly Progress Report, April, 1992, Appendices A-B
- 93. Monthly Progress Report, May, 1992
- 94. Monthly Progress Report, May, 1992, Appendices A-B
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- 97. Monthly Progress Report, July, 1992
- 98. Monthly Progress Report, July, 1992, Appendices A-B
- 99. Monthly Progress Report, July, 1992, Appendices B1-B22 Vol. 1 of 3
- 100. Monthly Progress Report, July, 1992, Appendices B1-B22 Vol. 2 of 3
- 101. Monthly Progress Report, July, 1992, Appendices B1-B22 Vol. 3 of 3
- 102. Monthly Progress Report, August, 1992
- 103. Monthly Progress Report, August, 1992, Appendices A-B

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- 104. Monthly Progress Report, September, 1992
- 105. Monthly Progress Report, September, 1992, Appendices A-B
- 106. Monthly Progress Report, October, 1992
- 107. Monthly Progress Report, October, 1992, Appendices A-B
- 108. Monthly Progress Report, November, 1992
- 109. Monthly Progress Report, November, 1992, Appendices A-B
- 110. Monthly Progress Report, December, 1992
- 111. Monthly Progress Report, December, 1992, Appendices A-B
- 112. Monthly Progress Report, January, 1993
- 113. Monthly Progress Report, February, 1993
- 114. Monthly Progress Report, March, 1993
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- 116. Monthly Progress Report, May, 1993
- 117. Monthly Progress Report, June, 1993
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- 120. Monthly Progress Report, September, 1993
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- 124. Monthly Progress Report, January, 1994
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- 126. Monthly Progress Report, March, 1994
- 127. Monthly Progress Report, April, 1994
- 128. Monthly Progress Report, May, 1994
- 129. Monthly Progress Report, June, 1994
- 130. Monthly Progress Report, July, 1994
- 131. Monthly Progress Report, August, 1994
- 132. Monthly Progress Report, September, 1994
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- 134. Monthly Progress Report, November, 1994

12 Large Brown Folders:

- 1. Administrative Record Index - 2 folders
Administrative Record 09-26-79 thru 05-29-83
Administrative Record 06-03-83 thru 11-28-83
Administrative Record 02-28-84
Administrative Record 03-09-84
Technical Comments on Remediation Investigation Report 2-84
Supplemental Investigation - Resource Engr. 1-84
Administrative Record 3-9-84
- 2. Administrative Record 08-31-84
Administrative Record 10-29-84 thru 01-22-85
French Ltd. Technical and Regulatory Concepts for In-Place Closure, 09-84
Supplementary Investigation, May 1984
French Ltd. Field Activities Work Plan, February 1985
Supplementary Investigation Attachments, May 1985
- 3. Administrative Record 02-04-85
Remedial Investigation, Vol. I Report, April 1985
Remedial Investigation, Vol. II Appendices, April 1985
- 4. Administrative Record 04-08-85 thru 11-26-85
Administrative Record 02-14-86 thru 04-04-86
Technical Report for Resource Engineering, 12-03-85

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- Appendix QA Program for French Ltd., 12-18-85
1985 Field Investigation Report Appendices, January, 1986
1985 Field Investigation Report , January, 1986
5. Administrative Record 04-01-86
Remedial Investigation Report Appendices, Vol. II, April, 1986
 6. Administrative Record 4-1-86
 7. Administrative Record 05-08-86 thru 05-12-86
Administrative Record 06-01-86
Administrative Record 01-05-87
Remedial Investigation Report, June 1986
Laboratory Evaluation of Biodegradation, 12-86
1986 Field Investigation Hydrology Report, 12-86
Endangerment Assessment Report, 2-87
 8. Feasibility Study, March 1987
 9. Administrative Report 03-11-87 thru 03-25-87
Administrative Report 4-1-87
Administrative Report 4-7-87
In Situ Biodegradation Demonstration Phase III QA Project Plan 3-87
Endangerment Assessment Report, 4-87
Proposed In Situ Biodegradation Demonstration French Limited Site Phase III 4-87
 10. Administrative Report 4-15-87 thru 5-1-87
Administrative Report 5-21-87 thru 7-2-87
French Limited Focused Feasibility Study, ERT 5-87
Revised Field Evaluation of Biodegradation at French Site Phase II Vol. I
-Revised 7-10-87
 11. Administrative Report 7-20-87 - 11-23-87
Administrative Report Undated Documents 000122-000134
In Situ Biodegradation Demonstration Report Vol. I Executive Summary 10-87
French Limited Site Work Plan Vol. I Project Activities and Sample Plan
 12. Texas Air Control Board Regulations I thru IX
Standard Exemption List
Application for Permit

During the month of December, the status of both libraries have been reviewed and the above information found to be accurate.

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Site Maintenance

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9.0 WETLANDS RESTORATION

9.1 Summary of Activities and Progress

Conducted safety meetings at the start of each work shift; inspected all equipment for safety compliance each shift; used daily lottery ticket safety awareness program.

Updated site work plan based on field progress.

Revised flow channel location to incorporate existing elevation features.

Designed road bridges and developed request for lump sum bids.

Maintained site security to protect the public and project equipment.

Modified excavation plan to save good vegetation; salvaged useful vegetation.

Developing a public relations plan.

Reviewed the project status, progress, and issues with the agency review committee; the agencies are satisfied with site progress.

Dewatered the site initially; some dewatering was required after each significant rainfall.

Removed topsoil and demolished buildings and foundations.

Started excavation of marsh areas; started excavation of flow channels.

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Wetlands Restoration

French Ltd. Project
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9.2 Problem Areas and Solutions

<u>Problem</u>	<u>Solution</u>
Trees in excavation area.	Transplant desirable trees to temporary nursery area.
Water inflow to site.	Seal culverts; secure sewer lines and stormwater lines; periodic pumping.
Safety awareness	Daily safety meeting; lottery ticket program.

9.3 Problems Resolved

None.

9.4 Deliverables Submitted

October, 1994, Monthly Report.

9.5 Upcoming Events and Activities

Daily safety program.

Continue civil work on site.

Excavate and save topsoil.

Contour site.

Identify and locate flora species.

Salvage useful trees.

MONTHLY PROGRESS REPORT
Wetlands Restoration

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Develop detailed cost estimate for Brownwood.

Develop restoration schedule.

Develop forecast of maintenance requirements.

Develop community relations plan.